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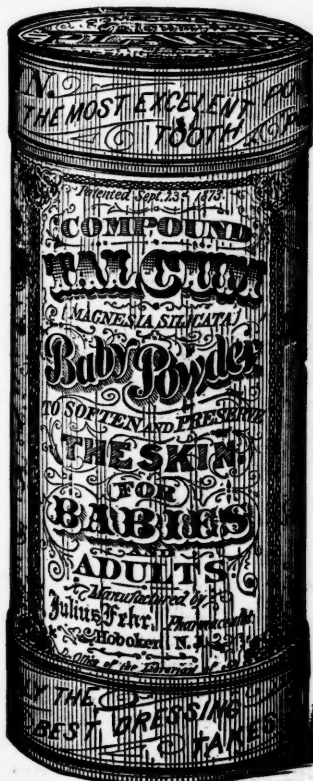
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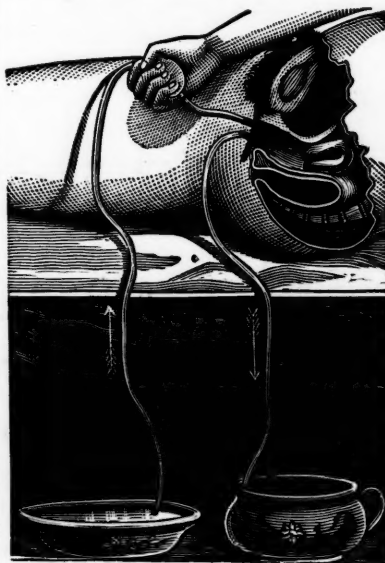
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Vol. XXIII, No. 15.

NEW YORK AND PHILADELPHIA, OCTOBER 10, 1891.

Whole No. 683.

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Clinical Lectures.

MIGRAINE; CLINICAL REMARKS ON HEADACHE.

By FRANK WOODBURY, M.D.,

Honorary Professor of Clinical Medicine at the Medico Chirurgical College of Philadelphia, etc.

SEVERE, more or less persistent, headache in a young man, or one at the prime of life, is often associated with syphilitic infection arising from a gumma or syphilitic meningitis. Another cause of common occurrence is chronic meningitis, due to insolation, or to a local congestion remaining after sunstroke. Such patients are liable, on exposure to the sun, even at ordinary temperatures, to have attacks of severe disabling headache. The next most frequent cause is migraine, or hemicrania, of which the present case is an illustration.

Although in the characteristic form of migraine the pain is confined to one side of the head, yet very frequently it is dull and diffused, and the patient is unable to localize it, or it may extend all over the head, although worse on one side. As you well know, headaches are also often caused by eye-strain and by nasal catarrh.

Migraine is common in young people of nervous temperament, being especially liable to come on when they are overworked. The attacks often commence with some disturbance of vision, hemiopia, or more properly hemianopsia. The patient, looking at his face in a looking glass, or at anything immediately in front, will be able to see only one vertical half of the object. One-half of the retina being rendered insensible in each eye, so that we have the inner half of the right eye and the outer half of the left eye insensitive, or vice versa. When this is the case, only one-half of an object is seen if looked at directly in front. Other patients have spots before the eye, or

they complain of weakness in vision. If they try to read the letters become blurred, or slight effort in reading brings on headache. This hemicrania comes on often, following indiscretion in diet; certain articles cannot be eaten without having an attack. I have known of cases where it was due to excessive taking of tea, or indulgence in a small amount of cheese. In others it is produced by greasy articles of food. In such attacks the patient generally wakes up in the morning feeling poorly, and unable to eat much breakfast, and either before, or shortly after breakfast, a dull pain commences in the head, which gets worse and worse during the day, and with it is associated a great deal of depression of the body, and physical powers and digestion seems to be entirely suspended, or to go on very imperfectly. Some time in the afternoon or evening the stomach rejects the food taken during the day, and, perhaps, the day before as well, showing that digestion has been interfered with from want of nervous supply. On account of the prostration the patient is generally obliged to lie down and discontinue all brain work, as well as physical labor.

These nerve storms are of two kinds. In one the face is congested; in the other case the patient's face is unnaturally pallid. In one case it will suggest to us that the blood supply of the brain is sufficient but irregularly distributed, and in the other case it looks as if the blood supply to the head was inadequate. In the first case the anaemia would be only local; in certain centers, or in one hemisphere, or in the course of one artery, while in the other case it would be general in all the great nerve centers.

After such a nerve storm the patient will rest for an hour or two, and after emptying the stomach, generally recovers in a short time, except for a slight weakness which disappears by the next day.

These attacks, as I have already told you, are brought on partly by indiscretion in eating, and partly

by mental work. Not always does the same article of food bring on an attack in different patients. The impaired nerve power so weakens the digestion that even ordinary articles of food are not digested.

In the treatment of this affection we must advise the patient to abstain from food which does not agree with him. As the blood supply to the brain is defective in these cases, some stimulant, such as hot whiskey, or alcohol, will often help to prevent an attack which is coming on. In other cases coffee combined with the whiskey will help, or caffeine given alone. If any undigested food remains in the stomach it will be well to give an emetic and wash out the stomach with hot water. Where the patient is well nourished, and able to take opium, the following may be given :

R.—Tr. opii deodoratæ gtt. x or xij.

(Tr. cannabis indica may be substituted when opium is considered objectionable.)

Potassii bromidi gr. xx,
with two drachms of camphor water. In addition, give some cinnamon or peppermint water to disguise the taste of the combination.

We do not, as a rule, combine anything sweet with bromide of potassium, on account of its salt taste. Antipyrin in gr. x-xv doses also will relieve headache, but is often followed by great depression, or even collapse.

Such a dose, taken and repeated every two hours, will generally ameliorate an attack, and enable the patient to keep on his feet and do a certain amount of work.

As to the treatment between the attacks it is possible this deranged blood supply may be due to some poisonous product circulating in the blood, the result, perhaps, of infectious dyspepsia and butyric or lactic acid fermentation, to the products of which when carried to the nerve centers this attack may be due. The headache may, on the other hand, be due to defective elimination by the kidneys, or even of some excrementitious matters. In favor of this view is the fact that the kidneys generally act very freely when the attack is passing over, a large amount of limped urine being generally thrown off. Here is a suggestion for our therapeutics, the remedies which increase the eliminative action of the liver and kidneys may prevent recurrence of these attacks. In some cases there may be a congenitally inadequate liver, which, owing to its small size, or some other cause, does not sufficiently purify the blood. It would be well to keep the patient on a vegetable diet in these cases, in addition to paying proper attention to the secretions.

When the kidneys are at fault and acting scantily, diuretics, citrate of caffeine, gr. j or ij, given three times a day, will do well, or it may be combined with gr. xx of acetate of potash given at night. Sweet spirits of nitre, or hot lemonade, with a teaspoonful of gin or whiskey at bedtime, are also good adjuvants.

When the liver is constantly deficient in its secreting power, succinate of soda in two-grain doses, several times a day, has been used with success, but probably the use of the podophyllin, leptandrin, cascara, and similar cholagogues will prove all that is necessary, if given regularly, with due regulation of the diet.

Such patients should pay especial attention to the functions of the skin, by frequent warm bathing or sponging, and wearing woollen, or silk underclothing.

The Columbus Medical Journal reports several cases of poisoning, supposed to be caused by eating wild parsnips, but really due to the *cicuta maculata* or *c. virosa*.

EPITHELIOMA OF THE ANTRUM.

REMOVAL OF SUPERIOR MAXILLARY BONE.

By ERNEST LAPLACE, M. D.

Professor of Surgery, Pathology and Clinical Surgery, at the Medical-Chirurgical College and Surgeon to the Philadelphia Hospital.

WE are about to remove the upper jaw from an old woman seventy-six years of age. This operation was first performed in 1825 by Gensoul, a Frenchman. You all know what the causes are, for which removal of the upper jaw is demanded. In nine-tenth of the cases the cause is a foreign growth, a new growth, a neoplasm, which starts from the mucous membrane lining that cavity in the upper jaw called the antrum. This mucous membrane is the same as that to be found elsewhere, and just as all growths starting from a mucous membrane are at least at first bound to be of an epithelial nature, so is this neoplasm epithelial in the beginning; secondarily, when these cells have infiltrated the submucous cellular tissue, when the fibrous tissue beneath has become infected, a new character is added to the growth. We have a right to think, from its analogy to tuberculosis, the cause of which is a micro organism, that the cause of cancer might also be micro-organism. When this enters the fibrous tissue it is also reproduced, thus we are likely to have evidence of a fibrous growth mixed with an epithelial growth; hence the diversity of opinion when we are called upon to diagnose these conditions.

Here you will see a tumor which started in the superior maxillary bone, and gradually filled, distended and burst the bone. Just as you know anatomists fill the skull with green peas, wet them and allow them to burst the skull, so these cells spreading rapidly, filled this cavity and broke it open, at the same time disintegrating the bone. Now we are called upon to diagnose the nature of the tumor. Where did it start? From within the antrum of Highmore, which is lined by mucous membrane, hence at first, if not at present, every particle of the growth was epithelial in its nature. However, since then it has pervaded and infected the surrounding tissues, and that is the reason why in most books, you find these tumors described as osteosarcomatous. Now both portions of that name are wrong, "osteosarcomatous" is wrong, inasmuch as the bone itself does not constitute an integral portion of the growth; secondarily, some portions of the bone are bound to be mixed up with the tumor. "Sarcomatous" is wrong, because the sarcomatous portion only enters its composition after the tumor has started. However, no matter by what name we call it, we should have an understanding as to what the tumor is, how it grows and what it becomes. Therefore, let us have it clearly before us that this tumor starts generally in the antrum, which is lined with mucous membrane, and any growth which starts from that surface must be epithelial. As it infiltrates the fibrous tissue below, becomes infected and so we have the sarcomatous element of the tumor.

Now in removing this tumor, especially from children and old people, we have great risks to run. It is exceedingly bloody and excites a great deal of shock, therefore we must proceed rapidly and remove as much as we can, hoping that the hemorrhage will not be more severe than the patient can bare.

I do not perform this operation as a matter of choice, but am forced to do it; the patient insists on its being done. On my telling her there are a few chances of recovery, she says she would rather die than remain as she is.

The incision that will be practised is the one introduced by Heath, an English surgeon. It seems to me the one that gives the best view of the parts. We will begin near the outer canthus of the eye; following the floor of the orbit, bring it to the nose, down the side of the nose to the middle of the lip, cutting through the whole structure.

Having done so, remove the whole flap to one side and that will give us a view of the upper jaw.

The soft parts having been liberated and the tumor exposed, our next purpose is to separate the upper jaw. That is performed by three separate acts. The first one is to separate the zygoma. This is done by introducing a chain saw through the sphenomaxillary fissure below the zygoma, and sawing directly through the attachment of the malar bone to the superior maxillary. The second cut will be by introducing the forceps directly into the nostril and in an upward and outward direction, cutting in a line drawn from the nostril to the floor of the orbit. The third cut will be through the roof of the mouth (the hard palate) by placing one blade of the forceps in the nostril and the other in the mouth. Then grasp the bone with the lion-tooth forceps and twist, first from side to side and then out.

That would be a typical method of removing the bone; but, unfortunately, I do not think it would be so easy in this case, as the bone has been destroyed and cannot be removed in its integrity. We will remove it piecemeal, inasmuch as it has been pushed apart by the growth. The bone thus being removed, we examine the cavity. We now use a curette to remove the cancerous granulations. That being done, we pack the cavity full of iodoform gauze and so accomplish hæmostasis and disinfection. We will leave the wound thus for two or three days and dress it after that length of time.

We would have much preferred to deal with this case at an earlier stage of the disease, as you will observe the skin on the surface is almost ulcerated through, so that we scarcely hope to be able to save a flap in order to close the gaping wound.

One of the dangers of this operation is that of blood getting into the trachea. Simple elevation of the head, without elevation of the shoulders will prevent this. Formerly, surgeons resorted to preliminary tracheotomy to attain this end.

Original Articles.

WHAT A GENERAL PRACTITIONER CAN DO WITH ELECTRICITY.¹

BY WILLIAM F. HUTCHINSON, M.D.,

PROVIDENCE, R. I.

Vice-President American Electro-Therapeutic Association.

I HAVE written this paper with pleasure. It will be listened to by an audience composed of men who know how such things are from experience; and in such presence there will be no need to stop at every sentence to explain the rationale of each statement.

Reading upon this subject before a general audience, I have often found a thankless task. My hearers were either mildly incredulous, actively combative, or aggressively doubtful; and, in every instance, over what they were usually ignorant of.

Their own experiences, accompanied by lack of results, had taught them that the therapeutic value

of electricity is nil; and, armed with this dogmatic incredulity, they scorned any statement, however modest, that seemed to impugn it.

It was their little knowledge that made them wondrous wise. From such sentiments my present audience is happily free, and I address you with that confidence which is born of the certainty that you know whereof I speak.

It is eminently proper that words of suggestion or of warning should go out from this association to our brethren through the land; for we have already collected in our ranks men whose names are synonymous with most that is known of electro-therapeutics—whose debates will be read with interest everywhere, and whose announcements of results attained may not be doubted.

Such statements will have the society stamp of authority.

And they will reach eager pupils. During the long time that I have devoted to the special practice of electro-therapeutics, a great number of letters have come to me asking for information respecting the proper use of electricity in a variety of cases, and replies have been acknowledged in a manner that showed interest and careful attention. In the various scientific societies before which I have spoken on this subject, there has been a respect accorded and an amount of keen interest shown that has convinced me that the thinking part of our people believe that the time has come for the employment of electric energy in treatment of disease to as full an extent as the most radical specialist could desire. And I believe that the majority of the profession agree in using it as far as they can safely, and will welcome all information from respectable sources that may aid them to do so.

Our medical men are among the shrewdest of Americans. They know that the age demands increased capacity for production, and better goods from them, as from all others; and, since their merchandise is health public and private—most preciously desired of all products, it looks to them with vigilance to neglect no means to provide it as perfectly as possible.

They are aware, these Yankee doctors, that among means to this end the employment of electric energy has stepped to the front, and that, more and more each year, its use at their hands is demanded by the people.

They are so completely convinced of this that I believe it to be nearly impossible to find a physician's office unprovided with some form of electrical machine.

A gentleman nearly connected with Mr. Edison's great manufactory lately said to me, while showing his new family faradic machine, and explaining its availability for medical men, "I doubt if you have any idea how many of these instruments are sold. The number that we turn out annually runs into the thousands, and we are just beginning to cater to the profession."

They are found, not only in physicians' offices, but thousands are purchased every year by confiding heads of families, who are led to believe that electricity is of the nature of a non-intoxicating cocktail, to be taken at any and all times, irrespective of actual need.

But among the profession at large, knowledge of electro-therapeutics is increasing, and much more intelligent study is now given to this branch of science than ever before; and yet, in the nature of things, it is improbable that general practitioners

¹ Read before the American Electro-Therapeutical Association, September 24, 1891.

will ever care to advance in our special study much farther than its alphabet. Their time is too much occupied to devote to a single branch that demands so much of it, and spare cash is rarely sufficient to invest a great deal in complicated and expensive instruments that need constant care. They are learning that after they have purchased and installed a fine set of electrical machinery, something is still lacking, and that is, the manual expertness coming from constant use and judgment in choice of current that is born of long experience in electro-physics. In many cases they are conscientious enough to ask information in a doubtful case; but in many more they throw the electrodes down with an impatient "Pshaw; I told you that electricity was no good!"

I heartily agree with my friend, the editor of the *Journal of Balneology*, and venture to quote a few lines from his August number, only changing a single word. "If, however, we would place the study of electro-therapeutics on a sound scientific basis, we must go to the root of the matter and teach our students in our medical schools the principles underlying this method of treatment. The establishment of a chair of electro-therapeutics in our leading universities, or a special course of lectures on this subject, will go far to convince medical men of its importance, and act as an incentive to its investigation."

And so I proceed to my suggestions. First, as to choice of instruments. Much handling of many kinds has taught me to avoid sedulously all prettily finished boxes whose contents are hermetically sealed, which must be returned to the manufacturer when repairs or re-charging is needed. My advice is not to buy any form of galvanic cell unless every part is easily inspected, readily understood and quickly repairable without expert aid. All good makers now supply hydrostats that will keep fluid in, and so-called dry cells are only dry because they are fluid tight.

Up to the present, I believe that some form of Grenet cell is the best for portable use that a general practitioner can purchase. It is reliable when cared for, quickly repaired when out of gear, and any of its parts may be replaced by any one in a few minutes at a trifling expense. A few days ago, I went a hundred miles into the country to consult with a bright modern doctor. When I called for a galvanic battery to help the diagnosis, he brought me a handsome box containing fifty closed cells that he had bought a month before. Much to his disgust, when the circuit was closed, there was no current, nor could our united endeavors get any. If that battery had been a series of open Grenet cells, how easily we should have found the defect and remedied it!

Twenty such cells will be found sufficient for all ordinary uses. They will give, say 24 volts. E. M. F., and with 100 ohms resistance, about 30 m. a., current enough for usual work, including such minor surgery as naevi, urethral strictures, removal of superfluous hairs etc., where there is practically no resistance.

For office purposes, where maximum of life and minimum of trouble are requisites, I have not found anything equal to the new Edison cell, marked type "C" in his catalogue. It is neat, as cheap as any other, has a life of fifty ampere hours, which means a year's work for a general practitioner, may be repaired by any one, and has that most valuable of all qualities, it will stay. In other words, it will give the same voltage, about seven-tenths volt per cell, as long as any part of the elements remains. It does not commence work with one volt per cell and slide steadily

down to nothing, as every variety of Leclanche cells does; one may always depend upon it.

Twenty-five of these, at a cost of \$32.50, less discount, will prove sufficient for all general work.

For a faradic machine, I should advise a good DuBois Reymond coil, with two Grenet cells in the box. One of them will be enough for ordinary work, but in asphyxia from inhalation of gas, in drowning cases, and especially in opium narcosis a second cell is necessary, as the treatment may be protracted for hours. In one of my recent cases, I exhausted four Flemming cells before the patient was out of danger.

I am not in favor of fancy attachments on the little table. Slow vibrating hammers, rows of shining buttons, many switch levers, etc., tend to confuse the busy doctor, and unsettle his confidence in his machine, at a time, perhaps, when instant action is imperative. A single pair of posts for electrode cords and a cut-off switch are all, in my opinion, that are needed.

I regard the faradic coils made by Flemming, of Philadelphia, as the best in the country. They are the perfection of instruments, and the only criticism that I ever heard on them was from my friend Newman: "Splendid," he said, "but expensive."

Well, the best one that he makes costs about \$25.00 and will last a lifetime, surely not very dear.

All instruments must be cared for. With galvanic batteries, it is not asking too much, in the interests of good work, that pairs be removed from acid fluid, rinsed in warm water, and dried before being shut up in their box, perhaps for months. With faradic machines, it is sufficient to empty and wash out the cell once in six months.

I have nothing to say here of static machines, accumulators, nor galvano-caustic batteries, since these are all instruments requiring such skill and technical knowledge to use effectively, cost so much money and demand so much care that their use is likely to be confined to specialists and well equipped hospitals.

Instruments provided, let us see what our doctor can do with them, without other instruction than he can find in books, or more time than his busy days and far from idle nights give him, always bearing in mind how much easier and simpler it is to write a prescription than to make an effective electrical application.

He may treat all functional derangements of special sense, and such forms of their paralysis as depend upon eccentric causes. Facial paralysis, aphonia from cold or sudden fright, tobacco amaurosis, tonic spasm of ocular muscles, hysterical deafness, and the like. These are all usually amenable to faradism, and neither require special skill in application, nor, as a rule, protracted treatment; and he may often obtain results from a single sitting that will astonish and delight him. Any text-book will give the proper technique, and his portable machine will furnish all necessary power.

He may treat certain forms of dyspepsia, dependent upon atony of stomach nerves, and will find in daily faradic applications of slight strength so efficient an aid to diet and ferments that he is not likely to miss using it a second time. I have found the best way in these cases to direct the current from the cerebro-spinal axis to the epigastrium, using large flat sponge electrodes in a recumbent position for five or six minutes daily.

He may cure sexual neurasthenia, meaning thereby that hysterical condition of the genito-urinary tract, which suspends sexual power in the presence of women, and ends in the patient's conviction that he

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is impotent. Here I have found it best to alternate faradism and galvanism; the former to stimulate sacral nerves, and the latter to restore tone to erectile muscles. It is best to employ faradic currents of sufficient strength to cause moderate pain, since lighter ones occasionally stimulate the penis to the point of orgasm. Perhaps the best way of making these applications is by means of my penis electrode, a tube of nicked copper, fitted with a plunger and weak spiral spring, which hold a pad of wet absorbent cotton in contact with the glans, and divide the current over the whole organ. The patient is frequently convinced that his case is hopeless, and such conviction is fatal to success. Unremitting, tender care is called for, and with the first firm erection the work is half done.

He may treat peripheral neuralgias from eccentric causes, or such as are confined to nerve trunks. For these I think that he had better employ galvanism, using a low pressure, say eight or ten m. a. in an outward direction, from center to surface.

I believe that it is rare to find that faradism does any good in these cases; indeed, it often aggravates a bearable pain until it becomes intense. It is the sedative, not the stimulant effect of electricity that we need here. Perhaps Radcliffe's plan of application is the best. He says, in his "Dynamics of Nerve and Muscle," "In a case, for example, of cervico-brachial neuralgia, we place the positive pole as near as may be to the origin of an affected nerve; the negative pole is held in the hand of the same side, which is immersed in a basin of warm, salt water. In this basin is another electrode, the wire from which is put in communication with the earth (grounded) most conveniently by putting it in contact with a gas-pipe. Patient and battery must be properly insulated. The result of this arrangement is that free negative electricity is carried off by the earth wire, and the limb remains charged with free positive electricity." I have usually employed this method.

In the neuroses accompanying or perhaps constituting herpes zoster, I have seen the entire trouble disappear in thirty-six hours under galvanic treatment alone. In this disease, I use Walling's foil bandage, which our doctor may easily make by folding tin-foil over a cotton roller in its length, and bandaging the chest therewith in the usual way. Connect the negative pole of a galvanic battery with one end of the bandage, with the positive attached to a broad plate at an indifferent point, and run the pressure up, a little at a time, until a sharp sensation of burning is felt. According to my experience, this will be in the neighborhood of 20 m. a., and should be continued for thirty or forty minutes.

He may cure muscular rheumatism in what appears to the patient to be a marvelous way. I learned from my old tutor, Duchenne de Boulogne, that the skin only must be faradized to cure these pains. This may be thoroughly done by drying and powdering the surface and using a labile current with a warmed, polished metal globe. If any subcutaneous muscle contracts, the treatment is lost and must be repeated after an interval. The current is confined to the skin by using swift, light passes in long sweeps. In this way a current may be made painless that is sharp enough to pierce the skin with crackling snaps and a shower of fine sparks.

He may relieve the neuralgic pains of dysmenorrhoea. In a certain per cent. of cases, these are dependent upon a stenosed canal, when a No. 20 olive tipped bougie, carrying 10 m. a. of negative galvan-

ism, will speedily dilate the stricture and relieve the patient. When the cause is congestion, the same current applied to cervix and upper vagina by a dilating electrode, will effectively attain the same end. So complete is this relief that I have seen more than one woman fall asleep in the operating room during the application.

He may use electricity in cases of suspended animation of newly-born infants. It is far better than artificial respiration effected by the doctor's mouth, and much more agreeable. I think that the best way to apply faradism here is through the medium of a warm bath. One pole may be plunged into the water and the other touched to the skin above the surface.

In this desultory way, gentlemen, I have endeavored to suggest a few of the many things that a general practitioner may do with electricity, and do well, with nothing more than his two instruments and half a dozen electrodes. The list is but a small one, but to extend it in this presence is needless. I have said nothing of electro-surgery nor of electricity in gynecology, not only because there are others present more competent than I to speak upon those subjects, but because I believe that success in both is dependent upon a degree of expertness in manipulation, and an amount of knowledge of electro-physics that no general practitioner will be willing to give sufficient time to attain.

What he may not do, his own good sense and a fair amount of experience will teach him, and what knowledge remains after his experimenting is done, will be likely to imbue him with respect for the science of electro-therapeutics, and for the men who devote themselves to its advancement in the face of factious and determined opposition.

At the close of the paper, Dr. Hutchinson presented to the association a new instrument, suggested by him and made by Sample, called the milliammeter. It combines on a single dial two scales, one measuring 1,000 milliamperes, the other 100 volts, thus enabling the expert, by reversing Ohm's law, to ascertain exactly the resistance of the tissues through which his current is passing. He stated that he is engaged in the study of diagnosing disease by differentiation of electrical resistances, and that, assuming a normal standard, any deviation therefrom plus or minus, would be found to mark a corresponding health displacement, which might be a diagnostic sign. He merely advanced this as a theory and commended its investigation to the Association.

ELECTRICITY IN CARCINOMA.¹

BY ROBERT NEWMAN, M.D.,
NEW YORK.

Consulting Surgeon to Hackensack and Bayonne Hospitals; Consulting Physician to Home for Aged and Infirm, Yonkers; Honorary Member Ulster County Medical Society, etc., etc.

IT is a very ungrateful task to write a paper on the treatment of cancer, while pessimists insist that cancer is incurable and the profession look with suspicion on any report of a successful case, and still more hazardous to say that electricity has cured; nevertheless, it *has*.

The object of this paper, is to give the different ways in which electricity has been used in the treatment of cancer—to report some cases, and to give the author's experience, with the hope of drawing the attention of electrical experts to this subject,

¹Read before the American Electro-Therapeutic Association at the first annual meeting, held at Philadelphia, September, 1897.

so that some method of treatment may be systematized and adopted, which may lead to progress and greater success with this valuable agent.

While there are on record some cases of unquestionable cure of cancer by electricity, it cannot be denied that many failures have resulted. Cancer patients are fickle and very difficult to manage, and usually come for treatment too late; hence, as a rule, cures are rare by every method.

In electricity no scientific plan has been adopted; unsuitable cases are taken by unqualified practitioners. Sufficient care and patience are not exercised. So much the more reason then for persistent study to find a remedy.

DIFFERENT METHODS OF ELECTRIC APPLICATION IN CANCER.

In the treatment of cancer electricity has been used in various forms, but electrolysis has been most prevalent, and this has been applied in different ways. In considering these different methods, four distinct divisions must be made, viz.:

1. Galvanism.
2. Electrolysis.
3. Galvano-cautery.
4. A combination method of two of the former.

As it is impossible in this paper to go over the whole literature on the subject and to discuss all the theories and cases, a select bibliography is attached, to which the student is referred.

This arranged under different heads is as follows:

A. General remarks, theories, observations, etiology, pathology, and the question, Is a cancer a constitutional or a local disease?

B. On inoculation of cancer and grafting.

C. Treatment of cancer.

C 1. By galvanism.

C 2. By electrolysis.

C 3. By galvano-cautery.

C 4. By a combination of methods.

In considering the four principal applications of electricity in the treatment of cancer, first in order comes—

1. Galvanism.

This has been applied externally with pads or sponge electrodes, and (the interrupted current) with needles.

The external application by the galvanic (constant) current with two sponge electrodes to the skin, on or near the tumor, has not met with success, and it seems has only stimulated the cancer cells to greater proliferation, and has thereby hastened the end. The author is not acquainted with a successful case, by external application of galvanism.

The second method, by the interrupted galvanic current with needles, deserves more earnest consideration. It was inaugurated recently by Dr. I. Inglis Parsons, of London, who calls it "The Arrest of Growth in Cancer, by the Interrupted Voltaic Current."

In the annexed bibliography under C 1, much reference is made to the literature of this method. Author had the pleasure of seeing Dr. Parsons at his office last year, during a trip to London, and was kindly shown the instruments and their uses. A galvanic battery with strong currents from 100 to even 600 milliamperes is used. Two needles are inserted, one into the tumor, the other outside of the tumor. Each needle is connected with one pole of the battery. Then a strong interrupted or alternating current is used by causing shocks, and the current is reversed

^{A second}

low; the electricity is not allowed to flow in one direction, as the direction of the current is constantly changed. It is immaterial to which pole of the battery the needles are attached. He gives strong currents in some locations of the body; a strength of even 400 to 600 milliamperes is frequently used.

The battery used must have a high electro motive force, capable of sending 500 milliamperes through a resistance of 800 ohms. Dr. Parsons says that his method of treatment is based on the hypothesis "Cancer consists of new cells which have been formed during the process of repair or inflammation, and in an active state of proliferation have escaped from the control of the nervous system." The deduction to be drawn from this hypothesis is "That, although the cells of cancer multiply more rapidly than those of healthy tissue, the absence of a nerve supply places their vitality, and more especially their recuperative power, on a lower plane than the latter." It will be seen, that in this method, by the sudden reversals of the current, an electrolytic action is impossible, and no chemical decomposition can take place at either pole. For this reason author has classified the Parsons method as *galvanic* in contradistinction to *electrolytic*. By flashing the strong current forward and backward, the intention is to produce a mechanical injury and obliterate the cancer cells without destroying the healthy tissue.

Dr. Parsons is a young and intelligent physician, who, in London Medical Societies, did not pretend to cure cancer, and modestly calls his method "The Arrest of Growth in Cancer." In the meeting of April 11, 1890, he stated that in his first case thus treated, the cancer had not reappeared for one year and eight months. At the same meeting the usual opposition was made by some surgeons (par excellence), who said they preferred a sweeping operation with the knife, and if the tumor reappears, no matter, they cut again. Now the question arises, What will be left of the patient if they keep on cutting, and then have they cured the disease or the patient? Author has been conversant with a case which had been treated temporarily by Dr. Parsons, and thinks it of sufficient interest to briefly relate:

Case: Scirrhus.—Nine operations with the knife; relapse; a hopeless case; much benefited by Parsons' method, and further, also, by electrolysis.

Miss C. N. B., aged thirty-six years, single, had scirrhus of the breast six years ago. Since July, 1886, has been operated on nine times with the knife, by celebrated surgeons in London, Rome and Berne. The disease always returned, and nodules of scirrhus appeared also in other parts of the body, as the other breast, in axilla, neck, etc. The last operation was in October, 1889, when one nodule could not be removed with the knife, because the tumor was imbedded in the jugular vein. Patient went to Dr. Parsons, who applied his own method four times in 1889 and beginning of 1890. April 4, 1890, patient came under my professional care. She had seen some surgeons in New York, who all declared her case hopeless. One surgeon told me that the patient could not live longer than six months, that some bones were carcinomatous and further use of the knife was inadmissible. Nodules were found on the right side in axilla, neck, breast and side below, and connected with the pectoralis. The nodule over clavicle, mentioned above, was imbedded in the jugular and the pulsation of the carotid could be seen and felt.

The galvanic applications by Dr. Parsons were made each time with two needles. From examination and the statements of the patient herself, there

is no doubt that Dr. Parsons' treatment benefited her.

From April 19 until June 25 patient was treated at six different times with strong currents of electrolysis; each time being under chloroform; at each séance two of the following gentlemen were present and assisted: Drs. G. C. H. Meier, S. De Wolf Waite and A. Doty. The *modus operandi* was as follows: The positive pole was a wire frame covered with absorbent cotton, dipped in hot water, and placed at the back of the patient on the right side below the scapula. The negative pole consisted of one or two platinum needles, which were plunged into the tumor or a nodule. The strength of the current used varied from 100 to 200 milliamperes, which is much stronger than I generally use. Each séance lasted about fifteen minutes, during which time the needles were used successively in different places; sometimes two needles were used simultaneously in the same or in two different localities. At the first séance one needle was kept five minutes in the nodule above the clavicle, and the next four minutes in a nodule in the axilla. The nodules almost disappeared under the action of the current; the particular nodule near the jugular became hard, and in due time disappeared entirely. The two localities just mentioned were surgically dangerous, and on account of the proximity of the important vessels the knife could not have been used. Patient was much improved in body and mind; the tumors had nearly disappeared. When she first came for treatment her right arm was in a sling, being very painful and useless. Now the pain has disappeared entirely, and she uses that arm just the same as the other healthy member. She enjoyed the summer in Saratoga.

In October two more applications of electrolysis were given, and patient went to the West Indies. In Jamaica, was very sick with dysentery, lost flesh and ran down generally.

March, 1891, returned from Jamaica, a generous diet improved the general health. No return of any visible cancer nodules. Patient was anxious to have more electrolytic treatment, but as there was no particular indication, only one séance was given, and she left for Italy.

Remarks.—This case is interesting in many ways. It was a hopeless case which even the surgeons refused to cut; authorities thought she could live not longer than six months. Nine cutting operations had been performed, and the microscope had settled beyond any doubt that the disease was malignant. The fact is incontrovertible, that the patient left in good spirits and better health one year after she had first applied for treatment. From the beginning of this treatment a cure was not expected or claimed, but the electric treatment certainly did result in much good. Dr. Parsons, in London, was not given time to do much for the patient, but there is no doubt that she was much benefited by his treatment.

2. Treatment by Electrolysis.

In the treatment of cancer by electricity, electrolysis has been mostly used, and is best known. It differs widely from the former method of galvanism, which by a strong mechanical action is expected to destroy the cancer, just as the alternating strong current kills in electrocution. Electrolysis on the other hand either destroys, causing decomposition by its chemical action, or causes absorption according to the strength of the current employed. The art of applying electrolysis successfully consists in using the correct strength of electric current, applying the respective poles in the right place, selecting the size,

shape and material of the electrode, and regulating the duration and intervals of séances.

There are two methods in vogue, one causing destruction the other absorption. A mild current can affect absorption only, a strength from 5 to 30 milliamperes may be used and even more, according to work done. A strong current from 25 and upward to even 200 milliamperes (and some operators have used even more), will destroy tissues to such a degree that the tumor may slough off as a dead mass. A good rule is to apply the current not stronger than necessary to accomplish the object. There is no use in applying 100 milliamperes when 30 will do, and there is danger that a too strong current will even defeat the purpose for which it is given. For electrolysis a galvanic battery must be used. There are two ways of operation: in one, needles are used at both poles; in the other, needles are used at the negative pole only, while a pad moistened with hot water, as the positive pole, is placed on some indifferent part or near the tumor. When needles are used at either pole one or more needles may be inserted at the same time. The best needles for electrolysis are made of platinum, which is the only metal that will not decompose at the positive pole.¹ However, some operators use needles of other metals, as gold, zinc, steel, etc., for which they probably have some reason. The needles ought to be plunged deep into the tissue to avoid the burning or destruction of the cuticle, as well as a running sore at the point of entrance. If the tumor is near the cuticle the current must be regulated so that it will not destroy the integument. No one rule can be laid down for the management of all cases, as varying circumstances will call for a different use of the poles etc., and a good result depends entirely on the intelligent management of each individual case.

Interpolar Action.—It is still undecided whether there is an interpolar electrolysis. Parsons says there is none, while others try to prove the opposite. It is certain that the decomposition by electrolysis is most at and around the termini of the poles, while the molecules flow *between* the poles. If there is an interpolar electrolysis, which is doubtful, it necessarily must be in a lesser degree than at the poles themselves. The knowledge of such facts is very important for the successful treatment of cancer by electricity.

To obtain more knowledge about the electrolytic action, author made some experiments in 1874, which may be summarized as follows:

Experiments I.—Specimen from carcinomatous tumors after their removal by the knife, were subjected to electrolysis. Needles were inserted into the tumor at a distance of one and one-eighth or one and one-quarter inches from each other, and a current of 36 cells of a galvanic battery was used. After ten minutes the hard cancerous mass was softer; bubbles of hydrogen were seen one to one and one-half inches distant from the negative pole, the greatest change took place at the negative pole. Afterwards the microscope found no cancer cell, only fibrine; while the original tumor was pronounced scirrhus by the committee of the New York Pathological Society.

Several other experiments gave the same results, which were, however, verified later by the experiments with specimens from the living body.

Experiments II, January, 1891.—Specimens from the breast of a lady were found scirrhus by micro-

¹Newman: Platinum Needles for Electrolysis, *Journal American Medical Association*, 1891, August 8.

scopical examinations. The tumor on the living patient then was treated by electrolysis, but could not be absorbed. Then the tumor was removed, and in this specimen no cancer cells found. The microscopical examinations were all made by experts, and I have here some slides, which may be examined.

The conclusions are, that electrolysis can destroy cancer cells, and that electrolysis causes specific decomposition at the pole and within a radius of one and one-half inches. Therefore, if needles are inserted in a tumor at a distance of two and one-half inches, it may be expected that the electrolysis acts in such a manner that no interstices are left between the needles, which will retain the life of cancer cells. According to such conclusions, I have operated principally by two methods. If an absorption by electrolysis was intended, the whole tumor was electrolyzed in sections with needles connected with the negative pole, one, two or more needles in the tumor at a time, while the positive pole was applied as a large pad outside, on the cuticle or near the tumor.

The second method is by having needles from both poles, the positive pole (a single needle) in the center of the tumor; the negative needle or needles at the circumference or even outside, but near the margin of the tumor, in the manner and at the distance mentioned before. This was applied for the destruction of the diseased mass, to be sloughed off. In the first method by absorption, weak currents were used and no anæsthetic, as no pain was caused.

Other operators have their own methods which, however, do not differ from the principle and theories here mentioned. From all of which good results and cures have been reported.

Dr. Neftel, who is a pioneer in this electrolytic work, has reported many cures. He believes that electrolysis, besides its local effects, produces also a remote constitutional change; as soon as the protoplasm has by the electrolytic process lost its specific qualities, the cancer is prevented from reproducing itself, and gradually disappears through the process of absorption.

Beard and Rockwell report six cases in "Clinical Researches in Electro-Surgery;" some of which were cured. These are:

1. Epithelioma of lower lip; recovery.
2. Large epithelioma of upper lip; satisfactory healing.
3. Scirrhus of the left breast; complete and instant relief from pain, etc.
4. Scirrhus of the right breast; relieved, but electrolysis with a strong current does not appreciably effect the growth.
5. Scirrhus of the breast; great relief of pain. Death from exhaustion.
6. Epithelial cancer of rectum, etc.; relieved.

Beard once inaugurated his method, which he called working up the case by electrolysis, which consisted in passing two needles from both poles deep in the tissues beneath the tumor. *vide Bibliography C 2.*

W. H. Mussey reported, in 1872, a cure by electrolysis, after repeated energetic applications in short intervals.

Dr. Gunning's successful case of cancer of cervix uteri is reported in Grandius' "Practical Treatise on Electricity." He uses one or more needles in the growth as positive pole, and several needles as the negative pole under the growth, with a galvanic current of 150 milliamperes. The aim of his method is to cut off the blood supply from the diseased surface

as to cause it to slough. One year after the operation no return of the disease had taken place.

Dr. Ernest Wende reports cases in the "*Buffalo Medical and Surgical Journal*, December, 1890." His case: III. *Epithelioma of face*, cured by electrolysis, is very interesting, and given here as reported.

W. H. S., a well-known gentleman of this city, for many years court stenographer, and at one time a medical student, first consulted me for malignant disease May 25, 1889. The affection in question was an epithelioma, situated on the side of the nose, in close proximity to the eye, in fact, involving the neighboring parts of both the upper and lower lids. The following is the history and the treatment as addressed to that terrible disease from the time of its first occurrence to the present date, written by the patient himself. I will give verbatim, as there is but little for me to add:

About twenty years ago there first appeared a small growth, in appearance similar to a wart, upon the left side of the nose, at a point about equidistant from the corner of the eye and the ridge of the nose. In the course of a year or so it would occasionally develop a small scab, and upon its being removed either purposely or accidentally there would exude a small quantity of serum. It would then heal up and be scarcely visible for some weeks, and even months. The formation of the scab became more frequent, and the size of the growth gradually became larger. About thirteen years ago I consulted the late Dr. Miner of this city, who advised its removal by the knife. He removed it in that manner. It was done at a time when he was in feeble health, and without an assistant. It bled very profusely, and from subsequent results I am satisfied there was not enough of the tissue removed. However, it healed up, and gave me no more trouble for a year or so, when it began to develop again, and more rapidly than before. I then consulted Dr. Cronyn, who was my family physician, and he advised its removal by erosion, with a sharp spoon. The effect of that treatment was about the same as that given by Dr. Miner. After continuing this treatment for a couple of years, at intervals of from three to six months, he applied a mercurial plaster, but after a few months it returned as before. He advised me to go to the late Dr. Davidson, who was making skin diseases a specialty. He treated it with mild caustics, healing it with a salicylic acid ointment. He continued this treatment for two years and a half, when he informed me that he could do nothing further for it. It had at that time spread, covering a place about five-eighths of an inch across. I then went to a cancer doctor; gave him a history of the case. He predicted that he could cure it in ten weeks, completely. He agreed to charge me nothing unless he effected a complete cure. He applied his cancer plaster on about thirty different occasions, each treatment covering a period of three or four days, and of the most hellish torture possible to imagine. At the end of two years and a half, when the disease had spread until it covered about four times the surface that it did when he began, and extending into the canthus, I bolted. During the last year of his treatment I had been unable to use my eye for any business purpose whatever. I decided it was better to die a natural death, if necessary, from the progress of the disease than to be tortured.

I next consulted Dr. Wende, who began his treatment one year ago last May. His first treatment by electrolysis was so successful that in less than a week the inflammation which had been present in my eye,

¹Trans. Americ. Medical Assoc., 1872, Phila., xxiii., p. 523.

and keeping it nearly closed during the entire time of the cancer doctor's treatment, had almost entirely disappeared. From that day until this I have been able to attend to my business and use my eye daily, and without annoyance. If I was able to endure the treatment without having cocaine injected into the tissues, causing the eye to swell, the effects of the treatment would not be noticeable to the casual observer from any swollen appearance of the eye. When Dr. Wende began his treatment there was over one square inch of surface of open sore, and as much more highly inflamed. At the present time the entire surface actually treated covers less than one eighth of an inch in diameter, and in only three different points.

W. H. S.

In treating the ulceration I first injected a 4 per cent. solution of cocaine in the surrounding and underlying induration, and then with the ordinary iridio-platinum needle destroyed the abnormal tissue with numerous negative galvano-punctures. The insertions were made in various directions, frequently one above the other, and often at right angles with each other. The current that was allowed to pass varied from 5 to 15 milliamperes. I cannot give the exact number of sittings the patient has had, approximately should say about twenty, given at irregular intervals, varying in duration from fifteen to thirty minutes. The infiltration grew gradually less after each treatment. Although not cured, the agonizing pain ceased, and the incessant nervous agitation and distress suspended. However, should I not succeed in entirely removing this dire infection, even in this most promising case, it may be truly said that electrolysis has done more to alleviate the suffering, and more toward affording a most likely means of reaching the cause than the knife or the caustic.

Dr. E. Wende, in a letter sent me September 9, 1891, says: "The case of W. H. S., which I reported, is practically well, and has been for some time. Have sent you photograph of case showing cicatrix."

"Electrolysis is my favorite means of treating an epithelioma, be it large or small. Can produce a record, however, it may appear small, of thirteen cases cured. Have just succeeded in healing a monster, by weekly sittings, after the knife, caustic, and cancer doctors failed. Will also send you a photograph of this patient within a few days."

The photographs of both cases have been received, and are here for your inspection.

The patient represented in the last picture is now seventy-six years old.

Dr. Waite, who is expected to be present, has seen the cases of Dr. Wende, and can affirm the statements made.

Dr. Geo. H. Rohé, of Baltimore, in a private communication of September 22, 1891, writes: "I have treated a considerable number of small epithelial growths by electrolysis, and believe that I have in some cases cut short the malignant tendency in the growth. I would not like, however, to speak of this as curing carcinoma."

"I remember one case, a small pigment sarcoma, growing on the site of a mole, which was removed by electrolysis, and where no recurrence took place in situ. The patient died about a year afterward of apoplexy. Secondary infection of a neighboring gland had occurred, which seemed to be hindered in its progress by percutaneous applications of the current."

Author's Experience with Electrolysis.—Author commenced in 1874 the electrolysis treatment in cancer, and has had considerable experience with these maladies. The results varied; some were failures; some

patients' lives were prolonged, and there were also cures; some patients remaining well without any sign of recurrence of the growth for many years. It would take too much time to relate these cases here in detail, only one case has been published, the specimen being presented to the New York Pathological Society, and examined by the Society's Committee on Microscopy and other experts. Here are some microscopical slides and drawings belonging to this case for the inspection of the members of our association, which has, and still can prove, that the case was carcinoma beyond any doubt.

The case mentioned under the former chapter of the Parsons method was treated by the author entirely by electrolysis, and shows what benefit was given thereby, even in an entirely hopeless case, and it is not the end, as the patient still lives.

A case of epithelioma of the face, treated by electrolysis, in which no recurrence of the disease occurred in seven years, ought to be counted as a cure. An old lady, seventy years old, came under treatment with an epithelioma above the malar bone, one inch below the eye, in October, 1878. During four days of observations the tumor grew visibly larger, so that it was evident there was no time to be lost, electrolysis was used with one needle as negative, inserted in the tumor and a sponge electrode in the hand as positive. My assistant urged an excision, and considered the application of electrolysis useless, as only losing valuable time. The result was, that after a few séances, the tumor sloughed, and then a rapid recovery took place, so that in due time not even a scar was observable. The patient was seen once a year at least, for seven years until 1885, during which time no new growth re-occurred, and she remained in perfect health, while seventy-six years of age. She has not been seen since. Can any one object that here was not a cure. If so, how many years are wanted without a recurrence of growth, till my fastidious friends will permit it to go on record as a cure?

These cases, among others, are only mentioned in a passing review to show that positive cures can be shown by author, as well as by other operators.

In some cases the malignant tumors were removed with success, but the patients died soon after, from some intercurrent disease, which, however, were not claimed as decided successes or cures. Neither is it denied that failures have often occurred, after very careful treatment. However, the cessation of pain in every case is claimed as a brilliant result of the treatment by electrolysis.

The report of successful cases in detail is reserved for another occasion.

3. *Treatment of Cancer by Galvano-cautery.*

The principal use of this method has been made in amputation by the galvano-caustic wire *ecraseur*—particularly of the tongue, cervix uteri, and the breast, and also by platinum burners to destroy, or even extirpate smaller growths—successes and failures are of record. Author knows a patient in good health now, 1891, whose cervix uteri was removed in this way by Dr. Noeggerath twenty years ago. Dr. W. E. Stevenson reports in the tabular statements of his work in the St. Bartholomew Hospital, London, cases of epithelioma of vulva, carcinoma of cervix uteri, scirrhus of breast, etc. Time had not elapsed sufficient to express any opinion as to the ultimate result. Dr. J. Byrne, of Brooklyn, seems to have had the most experience with this method in treating malignant tumors of the uterus. He has an experience of twenty-five years, in which he has constructed his own batteries and improved his own method. He removes

the cancerous tissue with the galvano caustic sling, and thoroughly re-cauterizes the surface and the edges of the tissues from which the cancer has been removed. Out of 367 cases thus treated, there was no return of the disease in two to eight years in 153 cases.

The 153 cases heard from and utilized in his tabular statement are divided in four classes, the disease being:

1. In portio vaginalis, 36 cases, no return of growth eight and seven-twelfth years in average.
2. In entire cervix, 35 cases, no return of growth five and a half years in average.
3. In corpus uteri, 4 cases relieved for two years.
4. In both body and uterus, 87 cases relieved for three years.

In further explanation of such cases a quotation from Dr. Byrne's letter to author is interesting, he writes as follows:

"The table representing class No. 1 in my paper needs correction to this extent: The number known to have enjoyed exemption from recurrence of disease should be 40 instead of 36, and as 3 more have since turned up, 1 after thirteen years, 1 eleven years, and 1 eight years, an average of the entire 43 cases gives eight year's exemption. This is for cases, when the disease has been supposed to be confined to the portio-vaginalis. In the case operated upon over thirteen years ago, however, there is more enlargement and induration of the submaxillary and cervical glands, which I consider cancerous, but the pelvic organs are so far intact. Such splendid results can only be obtained by strictly following my method of operating. Stewing wet and bleeding tissues by any heated metallic instrument will accomplish but little, and this is the way in which cautery operations are usually conducted. What is wanted is a *deep dry roast*." Author has not been very successful with his galvano-caustic operations in cancer, and all he can claim is to have prolonged life in some, but an immediate relief and the control of hemorrhage in all cases. Once a peculiar method was practised by the galvano-cautery cutting through the superficial tissues, encircling the tumor entirely, making thereby a deep ditch, which separated the healthy tissue from the affected. The intention was to prevent the cancer cells from spreading and retaining the same inside the circle, which was then treated separately, that was a failure; the deep ditch made, was painful, by being denuded of the protecting cutaneous covering. Besides, at the time of this procedure, the disease had already infiltrated many tissues and other organs of the body outside the circle, as stomach and liver; which, however, was not known at the time. It is doubtful if it would have been a success if the cancerous cells were located only in the central tumor.

4. Treatment by a Combination.

This consists of an application of two of the former methods, mostly combining the application of the electrolytic and electro-caustic effects of the battery in the same case. It was recommended by E. Noeggerath, in *American Journal of Obstetrics*, N. Y., 1878, Vol. XI, page 136. Many operators have made use of this method, making their own combination. Author had a successful case of keloid in 1878. The tumor was in the arm of a young man, which had reappeared after excision with the knife. The tumor was very hard, but softened after electrolytic action with a platinum needle inserted in tumor as the negative pole. The current was 15 to 20 milliamperes strong, and was applied for fifteen minutes, after the second séance tumor was extirpated with the galvano-cautery. The wound healed slowly, but patient

made a good recovery. As long as patient was heard from, which was several years, the disease did not return.

What constitutes a cure? In discussing this question, it must first be agreed what is considered a cure. A cure is a restoration to health, an elimination of disease. It is perfectly understood that the removal of a malignant tumor does not constitute a cure, but that a reasonable time must have elapsed without a recurrent growth before it can be pronounced a cure. How many years of good health is wanted, without a relapse after operation, before the profession will admit it a cure? To agree on such a time is the difficulty. Supposed a patient is well after the operation for three years, enjoyed good health, has no relapse, and then dies of pneumonia or any other disease or accident, it seems wrong to dispute a cure. It would be well, if the profession would settle this mooted question, and thus prevent disputes about statistics, so that every reporter would know how to make his tables and report cures, benefits, etc., correctly.

Aphorism about cancer theories. There can be no doubt that cancer has been cured by different methods, the knife, electricity or caustic applications, as reported by reliable practitioners. How a cure is effected appears to be simple enough, if the subject cancer could be understood (on which a diversity of opinions has been expressed). At the present day earnest, careful students have made progress, and while there is still doubt about some points, the majority accept certain theories, and a discussion or dissertation is out of place in this paper, general theories only are given from the literature on this subject, and referred to in the Bibliography annexed under "A."

There are several theories about cancer, it may be the result of a special microbe, or an abnormal growth, the result of the action of an irritant or an injury.

There have been different opinions where cancer is a local or a constitutional disease, it may be either, or it may be local at first and later become general or constitutional; an inheritant taint may influence the organization and may develop the disease sooner. The growth of cancer is considered an epithelial growing and spreading in a wrong direction inwards. In epithelioma of the skin it is easy to find cases where the newly-formed epithelium has grown in the *cutis vera* a long distance from its starting point. That carcinoma is the local manifestation of a constitutional disease seems to be improbable. It is a neoplasm. If local in its origin, the treatment must be directed to the arrest of the new growth and the destruction of the cancer cells, at the same time preserving and protecting as much as possible the healthy tissues. Cancers preads by proliferation of the cells, and is carried to other parts of the body by the lymphatic vessels.

Cancer grafting and inoculation. Only recently at the meeting of the Academie de Medecine in Paris, Cornil reported successful grafting of cancer and practised by a medical man, whose name was withheld for obvious reasons. He reported two cases, of which only one has a value for observations and conclusions.

The breast was amputated with the knife, a small piece of the removed tumor was grafted under the skin of the other apparent healthy breast. Two months afterwards at the place where the grafting had taken place a nodule had developed of the size of a hazelnut. This second tumor was then also ex-

tirpated. Both specimens were carefully examined microscopically by Cornil and found malignant, identical in structure. Later the patient died of an inter-current disease. Cornil made a post-mortem very carefully and deliberately examined every structure in the body, as muscles, lymphatics and bones. He did not find any traces of malignant growth or cells. The conclusion would be, that at least in this case the cancer had been exterminated, and therefore that cancer can be cured.

Von Bergman and Hahn, in Berlin, have been accused of grafting cancer in the human subject. No official report has been made about these experiments, for which the excuse has been offered, that it was done in doomed cases, cases beyond the slightest hope of recovery, and entirely for the sake of science. However, such experiment are not new, and have been made before, just as well in animals as in the human subject. References will be found in the annexed Bibliography under "B."

Is cancer curable? If cancer begins as a local neoplasm, the cells of which are all concentrated in one tumor, and such tumor is removed, without leaving any cancer cells behind, the cancer ought to be cured. Neither can any relapse occur, if no cancer cells are left in the body. If, later on, a new cancer develops in the same subject, because there is a new cause for such a consequence, then, such is a new case, and it can not be said that the first case was not cured; however, it would be very difficult to prove either. The difficulty in removing all the cancer cells in any case arises from not being able to locate such cells. If the tumor removed, contains all the malignant matter, the patient is cured; but as such cells often are scattered in the system, distant from the seat of the tumor, which have not been found or discovered by the operator, such cells will proliferate and cause new malignant growths. No wonder, then, that so many failures occur in the treatment of cancer, and that many practitioners do not believe in cures. Nevertheless the many reports of success by reliable men are facts, and prove practically, that cancer is curable, but the condition of a possible success is the entire extirpation of all cancer cells from the body. If electricity can accomplish this, it is preferable to the knife, which always must remove healthy tissue, which is preserved by the use of electricity.

If the theories are true which are found in the literature consulted on this subject, some of which are fortified by practical experience and statistical reports, the following hypothesis may be made (as conclusions).

1. Cancer is the abnormal growth of epithelium inwards (or downwards).
2. It is not proven, that cancer is due to a special microbe.
3. Cancer is a neoplasm, first shown as a local manifestation.
4. It spreads by proliferation of cancer cells.
5. Cancer can be grafted.
6. Cancer can be cured by the total removal of all cancer cells.

In what Manner is Electricity Expected to Cure Cancer?

The entire removal of the cancer cells, ought to cure cancer, no matter what method is used. Now the question arises, How is this effected by the use of electricity? There are several theories and methods.

1. Strong currents of galvanism are expected to destroy the cancer cells by a mechanical action.

2. A removal of cancerous tumors by extirpation (amputation) is effected by the galvano-cautery.

3. Electrolysis by a mild current acts as an absorption by chemical decomposition.

4. Electrolysis with strong currents acts as a destruction. The strong current will destroy the malignant tumor, leaving a dead mass, which will suppurate and finally slough off, leaving a healthy surface, healing by granulations.

Whatever method is used, it must be done thoroughly and systematically, removing all cancerous cells. Success can only be expected in the earlier stages of the disease; when the malady is local and the malignant mass is concentrated in one small tumor. If the cancer cells are dispersed in different parts of the body, scattered, and the disease has advanced, success can not be expected.

The Advantages of Electricity Against other Methods.

1. The facility with which electricity is applied, some methods can be done without an assistant and without an anæsthetic.
2. The operations are free from danger.
3. It causes no shock after the operation.
4. It is easier to get at the whole of the disease in an early stage, than by any other means.
5. It can be used in anatomically dangerous places, beyond the reach of the knife; the horror of the knife is avoided.
6. It delays the growth, prolongs life and benefits the patient, even if it does not always cure.
7. The patient is not necessarily confined to his bed or house.
8. The operation does not cause pyæmia or septiæmia.
9. There is no danger of hemorrhage, but it controls hemorrhage.
10. There is more chance of a cure and better healing after the operation.
11. It *always* allays pain.

In the forgoing article the details of cases have been omitted, it would have made it too long; it has not been written for the general practitioner.

The object was to report the different electric methods which have been used in the treatment of cancer, before the meeting of experts in electricity, for discussion and improvement.

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ASEPSIS IN INTRA-PERITONEAL SURGERY. ABSTRACT.¹

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Professor of Abdominal Surgery and Gynecology, in the Kentucky School of Medicine, etc.

HE said: I will not discuss the broad question of asepsis versus antiseptics by the use of chemical solutions in its application to general surgery, but if the proper precautions as regards cleanliness in every detail before and during an operation are observed, we need no antiseptic germicides in intra-peritoneal surgery. If solutions of sublimate, carbolic acid, etc., are brought in contact with healthy peritoneum their action is harmful, and if they do not cause immediate bad results they will cause subsequent trouble by so irritating the membrane as to result in few or many adhesions of the abdominal and pelvic viscera. They may leave the patient as much or more of an invalid than before the laparotomy. Nor will I condemn the use of chemical solutions for the purpose of sterilizing the operator, assistants, nurses, or patients, or the room, instruments, sutures, dressings or sponges, if used before the operation is begun, but the chemical germicide should be removed from everything that is brought in contact with the peritoneum. Unless everything is made practically clean, independent of the germicide, it will not make it aseptic. It is too often true that operators who are loudest in advocacy of germicide solutions are the least cleanly, and I have known them to forget to wash their hands before beginning an operation, or before examining a woman in labor. They wet the walls of the room and the hands that have not been cleansed in sublimate solutions, use carbolic spray, put dirty instruments, sponges, sutures, and dressings in dirty vessels filled with unclean water, and expect the antiseptic to make all aseptic. Just here lies a great objection to the general use of chemical germicides and many women have died of septic infection because of reliance upon such means.

There are relatively few men who know how to be surgically clean in every detail connected with intra-peritoneal surgery, and if the time and labor that has been devoted to teaching the medical profession how to use antiseptic germicides, had been directed to teaching the value of and means of accomplishing surgical cleanliness, septic peritonitis following laparotomy would be comparatively infrequent. Of course the above does not apply to all men who use chemical antiseptics, for some of them are the most cleanly men I have seen operate, but I believe they would get as good or better results if they omitted

the antiseptics. The peritoneum is usually infected by contact, and the danger of atmospheric infection is practically *nil*, as has been shown by the excellent results in laparotomies done in large and crowded amphitheaters.

In describing how to be aseptic in laparotomy work he adopted the following order:

1. The operating-room and the room in which the patient is to remain during convalescence.
2. The patient.
3. The operator and all assistants.
4. The kind of water to use.
5. (a) Instruments; (b) sutures and ligatures; (c) sponges; (d) dressings and towels.
6. Irrigation.
7. The drainage tube.

He advocated supra-pubic drainage with a small glass tube with open ends and fine holes on the side extending within from two to three inches of the mouth. This he claimed is sometimes necessary to get efficient drainage in view of the fact, that blood or secretions from tissues above the pelvis do not always by gravitation go into the retro-uterine pouch. He cited an instance where he was unable to get from the tube more than a teaspoonful of liquid until it had been pulled up at least two inches. He then removed a pint. This was within sixteen hours after the operation and the holes in the tube were open. He removes the liquid from the tube by suction and never introduces into it wick or gauze. He has the tube specially manufactured by Messrs. Ford & Co., New York.

The Polyclinic.

MEDICO-CHIRURGICAL HOSPITAL.

THE most probable explanation of congenital talipes is a cramped position of the foetus, disturbing the proper relation of the bones of the foot.

In performing subcutaneous tenotomy for talipes equinus, insert the tenotomy knife parallel to and immediately in front of the tendo-Achilles, then turn the cutting edge of the knife at right angles to the tendon, and have an assistant put the tendon on the stretch by flexing the foot, when the tendon may be cut with little difficulty. This is not a painful operation; really the only pain consists in passing the knife through the skin.—*Laplace*.

Even without surgical interference, flat-foot tends to relieve itself. If, however, the patient does not want to wait two or three years for the foot to become accustomed to the changed relations between its bones, we may try to restore the parts to their former condition by having an arch made in the patient's shoe, which will force the bones to retain their original relation.—*Laplace*.

Phosphorus favors the growth of bone, and it has been found that patients suffering from fracture recover more rapidly when phosphorus, or some of the compounds of phosphoric acid, are administered. For instance, women during pregnancy have a deficiency of phosphoric acid, so that when there is a fracture, the bones do not readily unite. Phosphate of calcium is very slowly absorbed, and may even form a calculus. We can better administer phosphorus in the form of the hypophosphites. In this form it is more easily absorbed and assimilated, and appears to be non-poisonous.—*Woodbury*.

¹Read before the American Association of Obstetricians and Gynecologists, at the Academy of Medicine, New York, September 18, 1891.

The difference between thrush and aphthous stomatitis will be readily recognized by close inspection. Aphthæ is an ulceration; a yellowish-white, scooped-out ulcer, with rounded edges, on a level, or it may be below the level of the surrounding surface, while thrush is deposited, as it were, on the surface, is elevated, and is white in color. Of course, thrush is found only in young children (three to six months), rarely after that, except secondarily in grave intestinal disturbances.

The treatment of aphthous stomatitis consists in removal of any irritating substance, and the use of an alkaline mouth wash of either borax or bicarbonate of soda. In these cases you will generally find that the intestinal tract is disturbed, and the stools, instead of being bland, are offensive, curdy, and green, in which case give something to dislodge offensive secretions of the intestinal tract, as follows:

R.—Sodii bicarb. gr. j-jj.
Syr. rhei aromat. ʒss-j.

If the bowels are loose, continue until the character of the stools is normal. If the bowels are constipated, add simple syrup of rhubarb.—*Hollopeter.*

Salicylate of bismuth represents our antiseptic treatment of intestinal disorders in children. It may be given in doses of gr. viij, with gr. j of sugar of milk after each passage, unless they are very frequent.—*Hollopeter.*

Eight days are not enough to heal a large wound. The edges may be approximated and appear firmly united, but the least strain is apt to cause the wound to gape again, so beware of removing the stitches too soon.—*Laplace.*

Attending the application of plaster of Paris bandage for fracture there is some danger of swelling of the limb, which being so inclosed, in a hard and unyielding mould, might cause gangrene. In order to avoid this, before applying the plaster of Paris, we first envelop the limb with a covering of common cotton (not absorbent cotton) which, not having had the oil removed from it, retains its elasticity and does not absorb water. Over this is applied a common bandage, and then the plaster of Paris bandages. When these have set, the layer of cotton beneath allows for a certain amount of possible swelling, but is also sufficiently firm to retain the ends of the bone in apposition.—*Laplace.*

Any irritation at the neck of the bladder is felt at the end of the penis, and vice versa, any irritation at the end of the penis affects the neck of the bladder.—*Laplace.*

The perforating ulcers which start from the skin under the toe, partake of the nature of epitheliomas. When they have lasted for a long time they cannot be cured, but return after removal. If, however, they are treated early and freely removed, they may not return.—*Laplace.*

PHILADELPHIA HOSPITAL.

DR. HIRST brought before the students a baby which he said would die from entero-colitis—one of the most common diseases with which the doctor has to deal. He exhibited it that the peculiar appearance of a child under such conditions might be noted. In commenting, he said that a baby's movements are naturally yellow and soft; but where there is infection of the intestinal tract, the move-

ments become dark green, partly from excess of bile, and partly from the action of the peculiar microbe present in such cases.

Dr. McKelway, in speaking of the symptoms of pregnancy, and of the difficulty sometimes attending the recognition of this condition, mentioned a case, which he himself had seen, of a woman who had a tumor which resembled a fourth month pregnancy. A vaginal examination disclosed the body of an unimpregnated uterus, on one side of which was found a tumor, believed to be an ovarian cyst; on laparotomy, however, an impregnated uterus was found. The uterus was bi-cornual, and the impregnated ovum developing in one of these horns gave the appearance of an ovarian cyst.

I do not think, when a woman denies pregnancy, there is ever an absolutely perfect proof of a pregnant uterus in the first three months.—*McKelway.*

Dr. McKelway quoted Dr. Goodell as follows: "If, after the sixth or eighth week, the cervix of a woman believed to be pregnant is as hard as the end of your nose, she is not likely to be pregnant; if, however, the cervix is as soft as your lips, she is probably pregnant."

Fœtal movements can be excited by many things. They are apt to be noticed early in the morning more than at other times, believed to be because the child is hungry on account of long absence from food, which the mother's and the child's tissues demand. When the child is dying, or is injured, or its vitality impaired by disease of the uterus, or cord, or of the mother, the fœtal movements are more pronounced. They are also excited by the application of cold to the abdomen, which means have been used to elicit this symptom. These movements may be simulated by abdominal contractions.—*McKelway.*

Dr. Barton presented an old woman, eighty-four years of age, to show a recovery from fracture in the aged. The humerus had been fractured at the junction of the upper and middle thirds. The arm was brought to the side, using the side of the body as one splint, and a shoulder-cap was placed on the outside. At the end of four weeks the bone had united strongly, a surprising result in a woman of her age.

Dr. Barton also presented an old woman, injured eight weeks ago, whose right leg showed marked eversion and shortening. The foot lay on its side, and the toe could not be brought to the median line. Measurement from anterior superior spinous process revealed almost two inches shortening. Dr. Barton thought it intra-capsular fracture, but as the condition was typical also of fracture of the shaft, and of dislocation of the head of the femur on the pubic bone, he proceeded to the diagnosis as follows: Palpation revealed no dislocation, which, if existent, could readily have been felt. In order to diagnose between intra and extra-capsular fracture, the femur was measured. Measurement revealed that the shortening was between the great trochanter and the outer tuberosity of the external condyle, showing that there had been a fracture of the shaft of the bone. Considerable thickening was then found to exist in the shaft of the bone. Furthermore, it was found that the great trochanter lay below a line drawn from the tuberosity of the ischium to the anterior superior spinous process (Nelaton's line). Had the fracture been intra-capsular, the trochanter would have been found above that line.

If we have ice directly in contact with the skin, it may lower the temperature too much, depressing the tissues and depriving them of their vitality. There should be about four layers of toweling between the ice bag and the tissues.—*Barton.*

COOPER HOSPITAL NOTES.

PELVIC PERITONITIS.

It is difficult to determine when an endosalpingitis complicates an endometritis for the reason that both alike are nearly painless. But when endosalpingitis terminates in pelvic peritonitis, when an inflammation extends from the mucous lining of the tube to the serous surface of the peritoneum, pain becomes the chief symptom.

Direct extension of an inflammation from the fimbriated extremity of the tube to the peritoneum gives rise to a local peritonitis, of which the extremity of the tube is the focus; but should the retained and morbid secretions of an inflamed tube be suddenly discharged into the pelvic cavity, then peritonitis becomes general.

In either event, adhesions of varying extent form that affect the uterus and implicate the cellular tissue surrounding the uterine cervix, and lying between the folds of the broad ligament. As to the uterus; its natural mobility, which is one of its chief characteristics, becomes limited, and the functional activity of its appendages impaired or destroyed. Ovarian adhesions may render ovulation difficult, and the ovum-conducting power of the tube may become impaired by adhesions that destroy its peristaltic action or close its fimbriated extremity. The body of the uterus may become pathologically anteverted by the neck being pulled backward by cicatricial contraction of the utero-sacral ligaments, or, on the contrary, it may be retroverted and finally retroflexed by the superincumbent weight of the intestines and its fundus bound firmly in Douglas' pouch by adhesive bands. Both sterility and dysmenorrhœa may become resultant factors of a pelvic peritonitis and the adherent uterus a source of pain upon any motion that stretches its adhering bands. Pelvic peritonitis rarely exists independently of pelvic cellulitis, on account of their related positions within the pelvis and their vascular and lymphatic supply. It is claimed by some that pelvic cellulitis or parametritis does not exist independently of pelvic peritonitis and disease of the tubes. It is generally admitted, however, that pelvic cellulitis or parametritis results more frequently from laceration of the cervical canal during parturition than from an extension of an inflammation into the pelvic cavity by way of the fallopian tubes.

—*Godfrey.*

GERMAN NOTES.

HERMAN D. MARCUS, M.D.

THE TREATMENT OF PERITYPHLITIS.—Dr. Vollert reports the following method of Nothnagel (Vienna) in the treatment of perityphlitis:

He uses at first about ten leeches, besides ice-bags, ice compresses, or Leiter's cooling apparatus. If cold applications or ice are not agreeable to the patient, then Priessnitz or hot compresses may be used. Later on painting with iodoform collodium, or tincture of iodine and tincture gallarum (equal parts); rubbing with *sapo viridis* may be tried if the resorption of the exudate is delayed; quite often a mild tonic, such as *tinctura cinchona comp.*, may be given. To alle-

viate marked pains, morphine is recommended. If the inflammatory stage has passed during convalescence, saline cathartics should be used. Massage with *sapo virid.* is recommended to counteract the sensibility to pressure. In old peri- or paratyphlitis, in cases in which permanent non-absorbent exudates exist, Nothnagel recommends poultices, warm salt-water or mud fomentations; also, warm mud or brine baths. Massage is also to be recommended in such cases. Regarding surgical interference, Vollert advises it only if positive evidence of an abscess is present. During the first days it is not wise to operate, as the case may be cured under above treatment. But if it is found that the exudate becomes chronic, if suppurative fever is present, then an operation would be justified. The most favorable cases for operation are such in which circumscribed, encapsuled perityphlitic exudates exist. Still, there are cases on record in which large paratyphlitic abscesses were cured by correct internal medication. If general peritonitis is present, the prognosis becomes bad. Resection of the vermiform appendix is recommended if perforated, providing no adhesions exist between it and the cæcum, the mesentery, or other intestinal loops.

—*Deutsche Med. Wochenschrift.*

THE ACTION OF CHLORALYD, HYOSCIN, AND HYDRATE OF AMYL IN THE TREATMENT OF MENTAL DISEASES.—Chloralymid, in doses of 15 to 45 grains, is an excellent and not dangerous hypnotic in chronic mental disorders, epilepsy, and sleeplessness due to nervousness. In some cases it acts as a sedative in 15 to 30 grain doses. Sleeplessness due to pain is less benefited by the use of this drug. It is well to change the hypnotic, as the patient becomes easily accustomed to the drug. It acts slower, is just as reliable, less dangerous, and produces an easier and more refreshing sleep than chloral. Hyoscin is not very well spoken of, and of no account. Hydrate of amyl reduces, in epilepsy, the number of attacks. The dose is two to three tablespoonfuls of a 10 per cent. aqueous solution. Still, bad results have been observed. In thirty-five patients who took bromide of potassium, a course of several weeks with hydrate of amyl augmented the convulsions and stupor.

—Dr. P. Naেকে, in *Deutsche Med. Ztg.*

SOME NEW DRUGS IN THE CHILDREN'S CLINIC.—

Iodol: E. Kraus used iodol powder for dusting, or 5 per cent. salve. The drug was found to be of special benefit in skin diseases of children with strumous diathesis; less good in its action it proved to be in diseases of the mucous membrane.

Tinctura Cascara Sagrada: As a positive and mild laxative for children this drug is recommended, in one-half to one teaspoonful, according to age.

Ext. Fluid Rhus Aromatica: In enuresis of children, 5 to 10 drops in milk, two or three times daily, it is an excellent remedy, but will only act as long as it is needed; afterward it becomes useless.

Pelletierinum Tannicum: This is an alkaloid prepared from the cortex radicis granati (bark of pomegranate root). French authors recommend it as a tæniacuge. The dose is from 7 to 22 grains, according to the age of the child. Kraus considers it unreliable.

Aristol: This drug is recommended in rhinitis of strumous children; also, in chronic eczema. It is of no use in pharyngitis, stomatitis, and other diseases of the mucous membrane. It is used as a powder, but the parts should be previously anointed.

—E. Kraus, in *Arch. f. Kinderheilkunde.*

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SOME HOSPITAL CONSIDERATIONS.

THE *Medical Standard* has little use for trained nurses; claiming that their officiousness exceeds their usefulness, and that they incline to the "rule or ruin" policy. "No man or measure is wholly wrong or wholly right" says our favorite philosopher, Herbert Spencer, and if we can only bring ourselves to put up with the defects of a system when the benefits are largely in the ascendant, by remembering that it is puerile to expect perfection, we will be neither optimists nor pessimists, and will reserve our grunts for things that are wholly rotten, such as political insane asylums. We believe in the trained nurse, and think she is a great improvement on the sloppy, snuffy, unreliable Sairey Gamps and Betsy Prigs. There are some things in the environment of the trained nurse, however, that lessen her efficiency and bring her into undeserved disrepute among some of those who think superficially, and who happen to have run up against these imperfections.

The only efficient method of hospital management is through a medical superintendent controlling, and being held responsible for, everything; when it becomes at once possible to suppress injurious influences, and to develop the training school to its highest usefulness.

Where there is a divided responsibility between a lay warden at the head, a couple of internes, who are graciously permitted to make suggestions to him, and a superintendent of trained nurses who may be subservient to warden and medical staff, yield allegiance to one or both, or occasionally conclude to do neither, but to run her own department in defiance of every one; discipline is impossible, while discontent and intrigue are sure to occur.

Even when all these individuals are above reproach individually, the system being faulty, a moral drop in the hospital tone is inevitable. Bad things are fostered by a bad system which a better one prevents.

The stock in trade accusation is made that the medical man is a poor business man and so should not be the head of a hospital, as though "business" were the only consideration, and as though the patients' interests could not be best conserved by a physician, who alone can understand their needs. The necessity of every petty expenditure being explained by the doctors to an ignorant person is degrading, and it is false that a physician need be a bad business man.

Undoubtedly deep professional interests do tend to make carelessness of even personal interests, and the dead beat rabble too often realize this and take advantage of it, unloading their, often vile, griefs upon the poor doctor without recompense; but the same ability that causes this self-abnegation, the professional unselfishness, is the very one that would make the doctor the very best head of a hospital.

As such he must forfeit development in a probably coveted direction and yield details to subordinates. Special ability is merely general ability, and when the medical superintendent finds that he cannot in justice to his duty spend all his time in the laboratory, clinics, operating room or library, he will find his recreation there while devoting himself to the general oversight of affairs.

A steward under him can save unnecessary mercantile and mechanical labor. All the departments: nursing, feeding, treatment, are thus under intelligent supervision and good results are surest (other things being equal). Under other systems a foothold is given to dissension, thus:

A female club (too often hysterically and ignorantly philanthropic) patronizes and interferes with the training school pupils, in some cases trying to missionary Christian science, faith cure or some such fol-de-rol into hospitals by proselyting the nurses. This club, or sometimes the superintendents of the school whence the originators of the hospital-school came, may and often do set themselves up as arbitrators and dictators in all matters of difference between their protégés and the hospital staff. Lying, trickery, slander, and neglect of duty is the outcome invariably, as necessarily as when Jones looks after your cook, Brown bosses your chambermaid, and the Rev. Robinson advises your wife in both spiritual and temporal matters.

A few illustrations are worth recording: One of the gentlest, most refined, ladies I ever knew was the wife of an assistant physician in an insane asylum. She had a peculiarly good influence over some of the female patients and was encouraged to exert it by her husband. She was the hearty co-operator of the lady physician of the place, a noble character, skilled, and untiringly unselfish. The good done by these two became too glaringly manifest, and the warden and politician who occupied the alleged medical superintendency grew alarmed, as demagogues will when credit is being given in other than their direction, and prompt measures were adopted to suppress this good work.

Had there been the control of a single medical superintendent worthy of the name, he would have been proud of his subordinates' work, but as the

real management was through burglars, pimps, and saloon-keepers, it would be fatal to his interests to have his subordinates attracting reputable attention, as the robberies, wretched food and medicine, and boodles generally must necessarily be brought to light through too much sincerity on the part of underlings.

Lay thieving supervision here was a bar to even ordinary decency on the part of the well disposed. The bad system brought in bad men and negated the endeavors of the good. By an accident this same asylum fell under the control of a high-minded medical superintendent, one who understood his patients' needs and was a good alienist, but the warden (who finally went to State's prison for theft) handicapped him in every way possible, because he would not be a party to robbery of the insane. This warden found that the superintendent of the training school was personally hostile to the medical superintendent, and forthwith intrigued successfully through the trained nurses to convert the asylum into a pandemonium. Thus the very purloins were enabled to use an otherwise excellent institution to the detriment of everything reputable.

Again, a neophyte entered a hospital training school, and, though far from being angelic, won the admiration of the patients and the warden's assistants, in addition to receiving full appreciation from the medical staff. A few of the nurses became jealous, as narrow minded people will, and "put up a job" on the "daisy," which resulted in her dismissal. The doctors had no right to interfere, the superintendent of nurses, a most excellent woman, disdained to regard their opinion, the warden could not interpose except by employing the girl as a clerk, when she lost her nurse's place. Now this is a delightful state of affairs. The patients grumbling for the return of their pet, the doctors mildly pleading and being rewarded by snubs, and then another department defiantly coming off victorious and vindicating the dismissed one by enabling her to prove efficiency in another quarter.

It so happens that every one of the parties, except the two or three intriguing nurses, are very honest, well-meaning people. Of course under malevolent department heads worse things than this would occur. Undivided medical responsibility and supervision would investigate and suppress conspiracies of this kind even though the tendency to them were greater than in this instance. Divided authority opens the door to trickery, pretext finding, dishonesty, immorality of other and various kinds, and is otherwise prejudicial to discipline.

Things evolve, however, and the Simon pure trained nurse will exuviate these possibilities and bless the sick-room with her bright face, kindly presence and skilled watchfulness, and the white mull caps and striped gingham will uniform the noblest sisterhood of the world.

S. V. CLEVINGER.

It is said that an ancient denizen of the malarial belt, happening to be in San Francisco at the time of the earthquake, immediately rushed into a drug store and yelled for quinine.

Society Notes.

AMERICAN ORTHOPEDIC ASSOCIATION.

FIFTH ANNUAL SESSION.

Held at Washington, D. C., September 22, 23, 24, and 25, 1891.

ORTHOPEDIC SURGERY AS A SPECIALTY.

DR. A. B. JUDSON, of New York, in the President's address, said that orthopedic surgery is specially the domain of physical demonstration, where subjective symptoms give place to objective signs; where treatment is chiefly mechanical, and where results are recorded in degrees of a circle, and fractions of an inch. It exists and thrives as a specialty, because the general practitioner concurs with the public in committing patients who, from the nature of the case, generally recover with some deformity and disability, to the care of experts.

DR. N. M. SHAFFER, of New York, defined orthopedic surgery as that department of surgery which includes the prevention, the mechanical treatment, and the operative treatment of chronic or progressive deformities, for the proper treatment of which special forms of apparatus or special mechanical dressings are necessary.

DR. V. P. GIBNEY, of New York, proposed a definition as follows: That department of general surgery which includes the prevention, the mechanical treatment, and the operative treatment of chronic or progressive deformities.

ORTHOPEDIC NOSOLOGY.

DR. W. R. TOWNSEND, of New York, advised the construction of a uniform nomenclature for orthopedic affections, to facilitate the taking of histories, and to increase the value of reported cases. A committee was appointed for this purpose.

THE LATE MR. THOMAS.

DR. A. J. STEELE, of St. Louis, paid a friendly tribute to the late Mr. Thomas, of Liverpool, a corresponding member of the association, whose methods have been so widely discussed, and whose influence is felt in many branches of orthopedic practice.

CRURAL ASYMMETRY AND LATERAL CURVATURE.

DR. H. L. TAYLOR, of New York, described two instances in which the leg was two inches and one and one-eighth inches short, respectively. Both cases were in young women. The short limb was larger and stronger; the shortening was chiefly below the knee, and there was no lateral curvature.

DR. A. HOFFA, of Wurzburg, Germany, described a specimen which proved that in one instance the shortness was due to union of the neck and shaft of the femur at an acute instead of an oblique angle.

DR. F. BEELY, of Berlin, illustrated with specimens of lateral curvature, and ingenious models, the changes which occur in the bodies of the vertebrae preceding rotation, explaining how the paraspinous sulcus is shallow and broad on the concave, and deep and narrow on the convex sides, a condition which is reversed in the lumbar region by the absence of ribs.

SPINA BIFIDA AND CLUB-FOOT.

DR. H. A. WILSON, of Philadelphia, related the case of a child of four years. The ordinary methods of reducing the deformity of the feet excited suppura-

tion, which resisted treatment for six months, as long as the patient remained under observation. There were sensory paralysis and deficient circulation in the lower extremities. The same intolerance of surgical treatment thwarted all attempts to treat the spinal tumor.

DR. L. A. WEIGEL, of Rochester, had had similar trouble with a similar case, but found that when the child was older it was possible to treat the deformity of the feet with success.

DR. A. E. HOADLEY, of Chicago, related a case of spina bifida, in which good results had followed an operation in which he did not attempt to repair the vertebral deficiency, but had simply turned up large flaps and united them by silk sutures.

DR. T. M. L. CHRYSTIE, of New York, reported a case of congenital equino-varus, with absence of great toe and contiguous bones of the instep. Mechanical treatment speedily reduced the deformity, with a gain of symmetrical gait.

DR. W. E. WIRT, of Cleveland, related an interesting and unusual case of club-hand and club-foot, with other congenital malformations.

DR. HOFFA said it was evident that all cases of club-foot do not have the same causation. The cases reported were due to some fault in the earliest stages of development.

SPASTIC PARALYSIS AND SPINA BIFIDA.

DR. W. N. BULLARD, of Boston, reported a successful operation by Dr. C. L. Scudder, of Boston, for the relief of spastic paraplegia in a child with spina bifida. He thought the paraplegia was not due directly to the spina bifida, but to the accompanying hydrocephalus. He advocated electrical treatment and faradization, rather than galvanism.

DR. WEIGEL reported a case in which division of all shortened tissues and the use of a brace had secured a favorable result.

DEFORMITY AFTER KNEE-JOINT EXCISION.

DR. J. C. SCHAPPS, of Brooklyn, said that after excision the two united epiphyses make a mass of soft bone, in each end of which is inserted a long lever. With this leverage it is possible to restore and maintain a straight limb by simple mechanical treatment.

DR. A. M. PHELPS, of New York, thought that recurrence of deformity can be prevented by liberal resection of the hamstrings.

DR. HOFFA said that relapse often occurs from incomplete removal of diseased tissue, and that when excision is done in early life, and all disease removed, marked shortening will not occur.

DR. BEELY said that flexion could be prevented by over-correction, but at the risk of further over-correction as the result of locomotion. Apparatus designed to prevent recurrence of deformity should relieve the limb from the weight of the body.

DR. TAYLOR objected to free division of the hamstrings, as these muscles are useful in balancing the pelvis on the femur, even after motion at the knee is abolished.

DR. J. D. GRIFFITH, of Kansas City, had prevented flexion by removing all the disease, and without dividing the hamstrings.

DR. SCHAPPS said that in many patients under ten years excision was to be preferred to mechanical treatment.

KNEE TROUBLES IN LOCOMOTION.

DR. SHAFFER related a number of cases in which an elongated patellar ligament had caused pain and difficulty in locomotion.

DR. A. M. VANCE, of Louisville, thought that the ligament might become shorter if not constantly stretched by use. Rest was indicated.

DR. GIBNEY cited a case in which rest for one and-a-half years had not caused shortening.

DR. SHAFFER said his patients had been benefited by giving lateral support, thus converting the joint into a true hinge.

ATROPHY IN JOINT DISEASE.

DR. E. G. BRACKETT, of Boston, argued that atrophy is due to disease, and not entirely to reflex irritation.

DR. A. G. COOK, of Hartford, said that atrophy of the foot, often very marked, can be only the atrophy of disease.

DR. J. K. YOUNG, of Philadelphia, believed that the atrophy in question is the result of reflex interference with nutrition. In hip disease it appears first in the thigh muscles, especially the adductors.

ATROPHIC ELONGATION.

DR. ROSWELL PARK, of Buffalo, described the atrophic elongation conspicuous in the lower extremity. As the result of disuse from disease, with avoidance of pressure on the bone ends, the bone lengthens more rapidly than its fellow. This is illustrated in growing children with disease of the tibia or femur, and is noticeable in some cases of hip disease.

TREATMENT OF HIP DISEASE.

DR. PHELPS said that traction and fixation should be enforced to prevent destruction by intra-articular pressure. Ankylosis is the result, not of fixation, but of disease. The patient should be put to bed from three weeks to four months, and should then wear the lateral traction fixation splint, which was exhibited. Children under three years are placed in the plaster of Paris portable bed, which was also shown.

DR. WIRT exhibited a new device for traction, in which the force of the lever is changed in rectilinear instead of circular motion, without key, screw-driver, wrench, buckle, or strap.

DR. R. H. SAYRE, of New York, said the invention gave accurate and easy adjustment in the direction of traction; but in the direction of relaxation the control was defective.

DR. A. J. GILLETTE, of St. Paul, was satisfied with the results obtained by the use of Thomas' splint.

DR. VANCE said he practised fixation at the hip; but believed much depended on the surroundings of the patient.

DR. SHAFFER believed the best results can be obtained by the use of the long Taylor traction splint. He thought results should not be reported till six years had passed, as relapses were not uncommon.

DR. RIDLON, of New York, said a splint should secure immobilization by antero-posterior leverage, as in Thomas' splint, by an action identical with that of the Taylor spinal brace.

DR. STEELE approved of the combination of the English method of rest with the American plan of traction.

DR. TAYLOR practised rest in bed with traction in the acute stage, to be followed by a splint which allows locomotion.

DR. SAYRE thought but few cases required lateral traction. When the inflammation had ceased, he applied passive motion. If the pain and tenderness following last more than twenty-four hours, the passive motion had not been rightly used.

DR. E. M. MOORE, of Rochester, believed that a joint only *moderately* inflamed demands motion. He employed traction with a certain amount of motion.

CONGENITAL DISLOCATION OF THE HIP.

DR. PHELPS exhibited apparatus for the treatment of this affection, and described his method and its results.

DR. E. H. BRADFORD, of Boston, had modified the apparatus in previous use by adding an appliance with which the patient is allowed to walk about. The joint is thus protected, as in convalescence from hip disease. Those appliances he had made of aluminum, for the sake of lightness.

DR. C. C. FOSTER, of Cambridge, said the best recorded result had been obtained by Dr. Buckminster Brown, whose patient was treated by mechanical means in bed.

DR. A. HOFFA had operated by deepening the acetabulum, which is practicable from the thickness of the pelvis at this point. At first, he sewed a periosteal flap over the trochanter; but this is unnecessary. Two months ago he examined his first case, two years after the operation, and found a movable joint, freedom from the characteristic gait, and absence of lordosis.

MR. HOWARD MARSH, of London, divided these cases into, (1) those in which the bone slips about on the wall of the pelvis, and (2) those in which it is fixed. The majority belong to the second class, and in these operation is useless; but is more properly applicable to these cases of the first class in which the head is high up and movable. The anterior position is the most favorable, because lordosis, which depends on the backward displacement of the head of the femur, is absent.

DR. RIDLON said that, as subjects for treatment, anterior dislocations are more hopeless than posterior ones.

DR. DE F. WILLARD, of Philadelphia, said treatment should be by forcible attempts at reduction, to excite inflammation, followed by traction and systematic exercise.

MALIGNANT DISEASE AND POTT'S DISEASE.

DR. JUDSON reported three cases in which Pott's disease and malignant disease of the vertebræ had been confounded by himself and other observers. In one, the diagnosis was made ante-mortem. The patients were four-and-a-half, thirty-five, and forty-two years, respectively. The chief diagnostic points are:

1. Deformity present in Pott's disease; absent in malignant disease.
2. Local disability.
3. Local pain; both absent in Pott's, and present in malignant disease.

DR. WILLARD had seen two cases in which his diagnosis was confirmed post-mortem.

DR. GIBNEY reported a case, in a man of forty years, in which he and others had been baffled in diagnosis. There was sarcoma of the fifth and sixth cervical vertebræ.

MR. MARSH related the case of a child which was extremely difficult to diagnosticate, and which proved to be malignant in character.

SYPHILITIC POTT'S DISEASE.

DR. RIDLON said that in this form the onset is more rapid, the pain and disability greater, the kyphosis sharper in outline, and abscesses often appear before deformity. If recognized lesions of hereditary

or tertiary taint are present, treatment should be by large doses of mercury and iodide of potassium.

DR. B. LEE, of Philadelphia, referred to cases of this origin which had come under his observation.

POTT'S DISEASE IN THE OLD.

MR. MARSH had observed instances of suppurative tuberculosis in the metacarpus, tarsus, testis, cervical glands, knee and hip in eight patients between sixty-three and seventy-three years. But senile tuberculosis of the spine is most rare. He had seen two cases. The patients were sixty-four and sixty-five years, respectively. The College of Surgeons, of London, possessed an osseous specimen of the action of senile tuberculosis of the upper cervical vertebrae. In his "Studies of Old Case Books," Sir James Pagot had recorded a case of Pott's disease in a gentleman of fifty-five, attended with angular curvature.

DR. SAYRE recalled the case of a patient, aged fifty-five years, who recovered from Pott's disease with paraplegia and abscesses.

POTT'S DISEASE AND PREGNANCY.

DR. T. H. MYERS, of New York, had collected twenty-five cases of labor in fifteen patients recovered from Pott's disease. In no instance did caries recur. But of seven cases in which the disease developed during pregnancy, three died, and three were left paraplegic. Normal parturition often follows in cases of deformed pelvis whose measurement would indicate that it was impossible. These patients should be examined by the obstetrician early in gestation.

DR. TAYLOR knew of many cured patients whose marriage had been followed by the birth of healthy children.

DR. G. W. RYAN, of Cincinnati, thought it was a question of allowing the tuberculous to marry. He knows of married women, deformed by Pott's disease, who had borne and raised healthy children.

DR. STEELE said one of his patients recovered from Pott's disease had borne six healthy children.

DR. LEE said that one of his patients, with a large lumbar kyphosis, had borne twelve children, who, with the mother, are all in good health. He thought Pott's disease, even in the lumbar region, rarely produced narrowing of the pelvis.

DR. VANCE had seen a number of cases in which this deformity had not made labor of more than average difficulty.

PARAPLEGIA IN POTT'S DISEASE.

DR. BRACKETT said that relief from paraplegia may be confidently expected from continuous extension and fixation, even in cases of eighteen months' standing. This should be continued for some time after recovery.

DR. YOUNG reported two cases of complete recovery, in which there had been absence of sensation, a feature always of grave import.

DR. SHAFFER referred to a case in which the autopsy showed that a portion of the eighth dorsal vertebra had nearly cut through the cord, leaving but a slender thread.

DR. HOFFA said that in these cases, the spine should be put absolutely at rest. He had collected thirteen operations within the vertebral canal. Two died at once, two recovered, and would perhaps have done so any way. In the others, there were immediate good results; but relapses soon occurred. The operation has no great future before it, and should be limited to those cases in which the processes alone are affected.

DR. S. KETCH, of New York, had now under treatment a patient who had been paraplegic for five years; but he still maintained a hope of effecting a recovery.

DR. HOFFA suggested that an abscess may be exerting pressure on the cord.

MR. MARSH said paralysis rarely depends on the pressure of an abscess; but:

1. On softening of the cord.
2. Pressure of a displaced sequestrum.
3. Most common, on pressure from exudation.

He would only operate after thorough trial of rest.

DR. WILLARD said we could not absolutely diagnose the cause. When there are extensive inflammatory deposits about the arches, laminectomy may relieve the posterior pressure and allow expansion of the cord.

DR. LEE said that in all cases of this form of paraplegia, suspension would materially hasten recovery.

ABSCESSSES IN POTT'S DISEASE.

DR. TOWNSEND thought that, as a rule, these abscesses should not be opened. In some cases aspiration should be done, and in others the cavity should be opened and drained to prevent sepsis and danger to life. His views were based on the history of 380 patients, 75 of whom had abscesses.

DR. YOUNG suggested the division of lumbar abscesses into external and internal, according to their relation to the psoas fascia.

DR. VANCE advocated aspiration, repeated as often as fluid is detected. In this way he cures three out of five cases. The depot is thus kept small, and the extent of subsequent operations, if necessary, is limited.

MR. MARSH had rarely obtained a good result by the use of the aspirator.

DR. RYAN said he had found aspiration to be a poor dependence. When interference becomes necessary, he believed incision to be the most conservative and effective procedure.

MR. MARSH said that, in his observation, it is best to open freely, evacuate thoroughly, and then apply pressure to assist in closing the cavity.

DR. B. E. HADRA, of Galveston, said that on general surgical principles, such abscesses should be evacuated.

DR. WILLARD would let dormant and caseating foci alone, liquefying collections he would aspirate and inject with iodoform emulsion, and if true pus were present, he would incise, wash out with sublimate solution, and avoid undue manipulation, which might cause fissures, which would let the tuberculous poison into the system. He would then suture the incision, and inject iodoform and boiled olive-oil.

DR. BRADFORD said that, while he did not think the danger from opening large abscesses was so great as had been thought by some, he was aware that absorption of such abscesses is not at all uncommon.

DR. J. E. MOORE, of Minneapolis, said the evacuation of a spinal abscess is a matter of great surgical responsibility, as it is an aseptic cavity, difficult to protect from infection after operation.

DR. HOFFA would open only those abscesses which cause severe pain, or are likely to give rise to septicaemia.

DR. LEE would never open an abscess of this kind unless compelled to by the conditions mentioned by the last speaker.

DR. KETCH said there was danger that in our anxiety to treat a secondary feature we neglect the disease itself.

DR. SHAFFER would not say that incision was never advisable, but generally it is wrong to open one of these abscesses. A very large abscess cannot be washed out, and its disappearance may be confidently expected, especially if efficient mechanical treatment is practicable.

DR. MYERS said that it was proven:

1. That it is impossible to completely remove bacilli from the abscess cavity.
2. That bacilli-infected wounds at times heal primarily.

Infection is more imminent after incision, because the wound lays open channels of absorption.

WIRING THE VERTEBRAL PROCESSES.

DR. HADRA suggested that the spinous processes at the seat of the disease be exposed, and then firmly wired together to secure rest and prevent deformity. The operation, as he had performed it for fracture of the cervical spine, was extremely simple and effective.

DR. SAYER thought the wires would not bear enough force to remove the weight from the vertebral bodies, and that outside protection would be necessary to prevent lateral and rotatory disturbance.

DR. JUDSON thought it was a question whether wiring was applicable through the long periods in which consolidation is delayed. Intolerance of the skin always prevents such pressure as we would like to make on the kyphos. The method proposed circumvents this difficulty.

DR. R. WHITMAN, of New York, said that due consideration should be given to the difference in development between the growing and adult spine.

DR. KETCH did not see how the proposed operation could take the place of apparatus.

DR. MOORE said it was a most simple and harmless procedure, and, notwithstanding the theoretical objections, he would accept the first favorable occasion to try it.

PROGNOSIS AND TREATMENT OF POTT'S DISEASE.

DR. KETCH had learned, from seventy-five cured cases, that in length of treatment and degree of deformity, the upper region of the spine is most favorable, and the middle least of all; that paraplegia more frequently accompanies disease in the upper than in the lower regions, and that cases of traumatic origin recover sooner than those of tubercular origin. Sudden deaths sometimes occur in cervical caries from interference with respiration.

DR. B. BARTOW, of Buffalo, said that the earliest important sign in the dorsal and lumbar regions is lateral curvature, dependent on nervous tenderness. Apparatus should be constructed to oppose the rotation accompanying the lateral curvature, as well as the antero-posterior deformity. He used the plaster of Paris jacket applied to effect the above objects.

DR. FOSTER said that extension in bed is the best method in the acute stage. Extension should be made by light weights, the cords leading over the head and foot of the bed and attached to waist-belts, chest-belts, and head-straps.

DR. WEIGEL reported a case of cervical Pott's disease, with abscess and paraplegia, successfully treated by extension in bed.

DR. RIDLON had kept patients in bed from three to four years, and had never seen a case which was not benefited generally and locally.

DR. RYAN said recumbency was the ideal treatment, but it is in many cases impracticable. He had found split plaster jackets efficient after the acute stage.

DR. LEE said that many years ago, when the plan had fallen into entire disuse, he was the first to adopt suspension from the practice of Dr. J. K. Mitchell. The apparatus was Le Vacher's head support and jury-mast, attached to a chair or go-cart, or to a door-way swing.

DR. SAYRE said that in the cervical and upper dorsal region, a metal posterior splint supported on the pelvis should be used with a jury-mast; and in the lower dorsal and lumbar regions, a plaster of Paris jacket with a jury-mast. Recumbency should be practised in the acute stage; children should be placed in the wire cuirass.

DR. KETCH had been disappointed with the plaster of Paris and jury-mast in the cervical and upper dorsal region. He commended the Taylor apparatus and chin-piece. In the lumbar region almost any supporting apparatus will secure a good result.

DR. TAYLOR said that the antero-posterior lever secures rest and protection, and combats deformity. Old and neglected cases are especially amenable to treatment, just as ankylosis is later and rarer than is generally supposed. Abscesses and paraplegia do not forbid a favorable prognosis.

DR. BRADFORD said that the plaster of Paris jacket was the readiest method, but had its disadvantages; that a steel brace gave better support, but demanded more skill and care, and that recumbency was the surest way to prevent deformity; but, as a rule, was impracticable for the long periods covered by the disease.

TYPHOID SPINE.

DR. GIBNEY reported an additional case of typhoid spine, in a man of forty-five years, in which, different from the cases previously reported, there was marked deformity in the cervical region, dating back to typhoid fever at the age of twenty-two. Two years of pain and disability had immediately succeeded the typhoid attack. Usually, the symptoms had not appeared till one or two months after the fever.

DR. HADRA recalled an epidemic of typhoid with so much tenderness on pressure of the vertebræ that the affection was at first thought to be meningitis.

RHEUMATIC SPONDYLITIS.

DR. RYAN said that this rare affection should not be confounded with rheumatoid arthritis of the spine. It is usually accompanied by rheumatic manifestations elsewhere. In the early stage the symptoms resemble those of tubercular spondylitis. Later, the deformity is not angular, but resembles that of senile kyphosis. Treatment should be directed to the relief of pain by support, cautery, and medication. In the chronic form, when pain has lessened, mobility should be encouraged by passive motion.

DR. HOADLEY deplored the confusion which is found in the nomenclature of these conditions which produce such a variety of results. He thought both rheumatism and osteo-arthritis were microbic diseases.

If ligamentous structures interfere with motion, passive motion was proper.

DR. LEE was reminded of a case which was at first thought to be spinal myalgia, but which proved to be gouty disease of the cartilages, an infrequent affection. Apparatus afforded relief, but, of course, not a cure.

DR. RYAN said that gouty spondylitis is generally attended by manifestations in other parts of the body. He had failed to state that his patient had limited respiratory movements.

DR. VANCE related a case in which there was, in addition to the spinal affection, complete immobiliza-

tion of the thorax with chiefly diaphragmatic respiration.

DR. BARTOW had seen a case in which relief was afforded by the spinal jacket.

DR. GILLETTE reported a case which, at the first glance, resembled the deformity of Pott's disease, but which proved to be rachitic in its etiology. Improvement followed a few days after suspension was begun.

TORTICOLLIS.

DR. WHITMAN inferred, from the study of 264 cases, that torticollis was more frequent in females than in males, and that the two sides of the neck were equally liable. Acquired torticollis, being often the result of suppurating cervical glands, should be treated at first by mechanical support, to secure rest and prevent deformity. Later, division of contracted parts, with careful after-treatment, should be practised.

DR. HOFFA said that cases of foetal origin have immediately after birth an atrophy of the face and head.

DR. WHITMAN thought that the asymmetry of the face and head was a late feature of torticollis due to muscular action on the growing bones.

SACRO-ILIAC DISEASE.

DR. LEE said the sequence of events is as follows:

1. Injury of the synchondrosis.
2. Subacute inflammation.
3. Irritation of the nerves of the joint, transmitted to the nearest plexus.
4. Resulting pain in the sciatic. The sciatica should be considered the result, not the cause, of all the trouble.

In nine cases out of ten, neuralgia is the effect and not the cause of any trouble. As stooping in sacro-iliac disease is injurious, he had devised a handy instrument with which the patient can pick up an object from the floor while remaining erect.

ELECTION OF OFFICERS.

DR. BENJAMIN LEE, of Philadelphia, was elected President, and DR. JOHN RIDLON, of New York, Secretary, for the ensuing year.

Annotations.

DR. FRANK W. REILLY has been appointed Secretary of the Illinois State Board of Health, to succeed Dr. Rauch. Dr. Reilly has had some experience in the work, and has been for four years the managing editor of the *Chicago Daily News*. It is not likely that the good work inaugurated by Dr. Rauch will in any way suffer in the hands of his successor.

THE increase of typhoid fever in Chicago is beginning to attract attention. The cause is said to be the low water in Lake Michigan, and the exceeding foulness of the river. Efforts have been made to divert the current of the river from the lake, and pumps erected to convey the water off into an affluent of the Mississippi system; but the plant is deficient. When the water-way to Lockport has been completed, some relief is expected. Meanwhile, Chicago must move in the matter if she expects to avoid the unenviable notoriety that Philadelphia obtained from her Centennial typhoid epidemic.

SO very rare it is for the religious newspaper to say a word against quackery, that we must find space for this little cutting from the *N. Y. Christian Advocate*; all the more as the writer touches firm ground in his argument, on which science and religion can stand together. In whatever way the reformation of the drunkard has been effected, we have infinitely greater confidence in its permanence if, with a realizing sense of human frailty, he kneels down and humbly asks his God's help in his efforts to do right henceforward:

"Dr. Keeley and his advocates ostentatiously parade the statement that "will-power" and "conversion" do not, except in rare cases, effect cures. This is a gross misrepresentation, whoever makes it. We have given several hours to recalling the number of persons whom we have known in a life of continued intercourse with all classes in many cities and towns, calling up the history of our fellow-students in fifteen years of school and college life, whom we have known to reform from supposed incorrigible drunkenness without the help of this system, and could make and authenticate a list of above seven hundred. There are living, to our knowledge, in this country, thirty-five ministers of the gospel, of different denominations, some occupying high rank in this city, who were drunkards, and some of them of a very low type. One, our neighbor, long a hopeless drunkard, reformed, attained a great practice as a lawyer, had a honored career in the Senate, and died a sober man. We have known men to become insane through drunkenness, to be incarcerated in an asylum, and there form the resolution, and to go forth to fight their appetites, and win victory without the help of any drug, hypodermic injection, or magic of any sort."

APROSEXIA AND HEADACHE IN SCHOOL CHILDREN.

GUYE (*Practitioner*) proposes the word *aprosexia* to designate the inability to fix the attention on any more or less abstract subject. We are glad a scientific name has been found for this state of mind, and that the term has such a truly scientific and unintelligible aspect; one calculated to discourage the angry parent who feels tempted to box the ears of the child whose attention is with difficulty fixed on some abstract subject. How much suffering would have been avoided had this term been in vogue when we were struggling with our "Effectual Calling."

Dr. Guye says that with the impairment of the attention goes feebleness of memory and a tendency to headache. Sometimes sight and hearing are also affected.

In one case he found that a child, about seven years old, had enlarged tonsils, mouth breathing, and a stupid face. In a year's schooling he had only learned three letters of the alphabet. The tonsils were removed, and the nasal stenosis treated. In a few weeks the child had learned his alphabet, and has since kept up with his classmates.

In a second case, a girl fifteen years old complained of almost daily headache. She had great difficulty in keeping up at school; the lessons learned in the evening were forgotten by morning. She had been a mouth-breather from infancy. Part of one tonsil was removed, and the nasal stenosis treated. A week later she astonished her doctor by her bright looks; the headache was gone, the lessons were easily learned, and all signs of deficient intelligence disappeared.

The conclusions follow:

1. No child should enter school without a medical certificate of its fitness for mental training.
2. Medical school inspectors should be provided; and among other duties, they should be required to inspect the upper air passages.
3. Teachers should advise the inspectors of all backward children and mouth-breathers.
4. If there are no medical inspectors, the teachers should be notified of the meaning of mouth breathing, and taught to look for it in backward children.

Letters to the Editor.

A PROLONGED FAST.

DR. WARSHAVSKY (*Vratch*, N. 19, 1891) tells us a most interesting case of a lady thirty-five years old, who had made up her mind, in consequence of extreme poverty, to starve herself to death. For this purpose she found refuge in the garret of an uninhabited house at a distance from town. The garret had broken windows, admitting of free access to winds and frost. In the first days of her fasting she was still able to get up to pass urine; but afterwards she lost the strength to do this, and could not leave her seat. The janitor of that house accidentally entered it; and hearing feeble human cries and sighs in the garret, he immediately notified the local authorities of the fact, and the sufferer was removed to the hospital.

The patient was in full consciousness; but the pulse in the radial artery could not be appreciated; the heart sounds were scarcely to be heard; the body extremely emaciated, covered with and eaten up by insects; the skin had assumed a yellow earth-like tint; the cardiac region and the whole upper part of the abdomen extremely tender. According to the patient's statements she had not taken food for twenty-six days; neither did she have a drop of water; her bowels had not been opened in this time.

In the hospital she was given to drink a little port wine and milk. Epigastric pain, which caused her to sigh, disappeared after a spoonful of castor oil. Then the patient began to improve gradually; but the radial pulse could not be felt as yet. During the first two weeks of her hospital life she suffered from a slight diarrhoea and oedema of the legs. Little by little, however, all the pathological symptoms disappeared, and the patient finally completely recovered.

S. SEILIKOVITCH.

338 SPRUCE STREET, PHILADELPHIA.

DOSIMETRY IN THE JUGULATION OF ACUTE BOWEL AFFECTIONS.

THE power of dosimetry, so-called, or positive medication in the jugulation of acute affections, is strikingly illustrated in a case at hand.

Was called hurriedly, on Saturday A.M., September 26, to see a little boy, three years of age. Found the little chap in a high fever, vomiting every few moments large quantities of frothy water, almost clear; nervous as a hawk, and ugly as sin. What little of his tongue I could see between yells was fairly clean. I had my usual arsenal of granules along, and gave him aconitine $\frac{1}{12}$, 10 in 30 teaspoonfuls of cold sweetened water, and added $\frac{1}{2}$ dr. of aromatic spirits of ammonia, with directions to give a teaspoonful of the mixture every half hour.

This was done quite faithfully, and on my visit at 8 P.M. I found the little fellow asleep and sweating well, with temperature about the same. As there is

scarlet fever in that locality I thought at first that this was possibly the trouble, but careful examination gave no confirmatory symptoms. So I left him for the night, continuing the aconitine, and adding one granule ($\frac{1}{8}$ gr.) of sulpho-carbolate of zinc to each dose, with directions to give it at least every hour during the night. This was done, and at my visit the next morning—twenty-four hours from the first one—I found temperature normal, and the nurse reported three or four green stools during the night, and said, in reply to my query, "Yes, doctor, they smelled just awful." So I continued the granules of zinc, and added one of copper arseniate. The breath at this time smelled as badly as anything need to to "turn a dog's stomach." I ordered a hot tub bath and a change of clothing, and gave the medicine every half hour during the day while awake. This evening I find the pulse and temperature still normal; stools much better color; odor nearly gone; tongue and breath natural; or, in other words, recovery complete. I now continue the last prescription, with the addition of a trifle of arseniate of strychnine, and shall see the case once or twice more to keep things straight, and that is all; and another victory over disease is gained quickly, safely, and pleasantly with these "arms of precision," the alkaloidal granule.

W. C. ABBOTT, M.D.

EAVERSWOOD, CHICAGO, ILL.

The Medical Digest.

FOR DELIRIUM TREMENS.—

R.—Paraldehyde..... gr. v.
Bromide of ammonium..... gr. x.
Hydrate of chloral..... gr. x.
Tinct. hyoscyamus..... gtt. x.
M.—S. Take at one dose.

In the *St. Louis Clinique*, Fyke speaks of the treatment of incipient tuberculosis. He advises the use of the "four chloride" solution, as admirably adapted to all wasting and anemic conditions:

R.—Hydrargyri bichloridi..... gr. j.
Liq. arsenici chloridi..... ʒij.
Tr. ferri chloridi,
Acid. hydrochlorici..... āā ʒss.
Syr. limonis,
Aque destillat..... q. s. ad. ʒvj.
M.—S. ʒj every four hours, to adults.

Hydroleine has given him more satisfactory results than any preparation of cod liver oil on the market. Iodine he prefers to use externally.

TYPES OF INTERMITTENT FEVER.—In *Medical Progress*, Kenner gives his deductions from the study of over 3,000 cases of intermittent fever in Kentucky and Arkansas. He arranges these under the severely bilious type, the mild bilious, the cachectic, and that in which the paroxysms recur from habit.

In treating the first class, the author considers nothing so important as colocynth, with or without calomel. Quinine may be required afterward; and is the remedy for the second class. For the malarial cachexia, removal to a healthy climate is essential. Cod liver oil, arsenic, and iron are the best remedies. For the fourth class, he gives iron, arsenic, cold baths, and opium with capsicum to abort the paroxysms.

Medical News and Miscellany.

JERSEY pigs are afflicted with some unknown and fatal epidemic.

BRAZIL has established an institute for inoculations against yellow fever. Dr. Freire is in charge.

A QUACK doctor down South has gone to horse-stealing. Not a radical cure, but a decided improvement.

IN the case of Madame Bonnemain, the treatment of phthisis by hypodermic injections of guaiacol proved a failure.

DR. WILLIAM CARTER, one of the resident physicians of the Philadelphia Hospital, has resigned, and Dr. Norcross has been selected to fill the vacancy.

A CINCINNATI journal publishes details of a "remarkable case" of necrosis of the maxillary bones that improved under daily doses of iodide reaching 200 grains. This may be "unprecedented" for Cincinnati, but has often been exceeded here. The patient, whose name was published, has a good case for damages against the doctor who "gave her away."

At present, thanks to Lady Dufferin's fund for supplying women physicians to the women of India, there are thirty-one well-qualified women physicians scattered throughout India, seventy-two missionary physicians practising, and nearly two hundred girls and women studying medicine in the Indian medical schools.

THE St. Louis College of Physicians and Surgeons reports 178 matriculants within the first ten days of the present term. This means a class of 250. Dr. A. C. Bernays has resigned the Chair of Anatomy, and has been succeeded by Dr. George Cale. *The Clinique*, under the able management of Dr. William Porter, shows evidences of prosperity.

THE President and Board of Directors of the Washingtonian Home have tendered a reception to Dr. Albert Day, in honor of his seventieth birthday, Thursday evening, October 15, 1891, in the parlor of the Home, 41 Waltham street, Boston, Mass.

The Association for the Study and Cure of Intemperance hold a public meeting in celebration of the same event, at the same time and place.

AMERICAN PUBLIC HEALTH ASSOCIATION.—The Nineteenth Annual Meeting will be held at Kansas City, October 20 to 24, 1891. The Local Committee of Arrangements announces that all the railway passenger associations of the country have granted a one and one-third fare-rate for the round trip on the usual certificate plan, that is:

1. Procure a certificate of attendance from the agent at the starting point by paying full fare to Kansas City.
2. Have the certificate of attendance signed by the proper officer of the association at Kansas City. This certificate will then procure return ticket for one-third fare.

All the leading hotels of Kansas City will give special rates to delegates. Arrangements are being perfected for an excursion into Kansas, as one of the features of the entertainment of the association. For any information as to the meeting, address Dr. E. R. Lewis, Chairman, or Dr. Joseph Sharp, Secretary, Local Committee of Arrangements, Kansas City, Mo.

DR. C. A. KINGSBURY died, last Saturday, at the age of seventy-two years. He had for many years been connected with the Philadelphia Dental College. He was a great fisherman, and one of the most genial of men.

THE INTER-CONTINENTAL AMERICAN MEDICAL CONGRESS.—The Committee on Permanent Organization of the Inter-Continental American Medical Congress, will meet at the Lindell Hotel, St. Louis, Mo., October 14, 1891. It is intended at this meeting to (1) adopt constitution; (2) elect permanent officers, domestic and foreign; (3) select time and place of meeting. Members of the Auxiliary Committees of the different States are invited to be present. Charles A. L. Reed, M.D., Chairman; J. W. Carhart, M.D., Secretary.

WEEKLY Report of Interments in Philadelphia, from September 26 to October 3, 1891:

CAUSES OF DEATH.	Adults.	Minors.	CAUSES OF DEATH.	Adults.	Minors.
Anæmia		1	Fever, typhoid.....	8	3
Aneurism of the aorta.....	2		Hemorrhage.....	1	1
Alcoholism.....	1		Hernia.....	1	1
Apoplexy.....	11		Homicide.....	1	1
Bright's disease.....	11		Inanition.....		18
Burns and scalds.....	1		Inflammation bladder.....	1	1
Cancer.....	10	1	" brain.....	5	10
Casualties.....	2	1	" bronchial.....	2	1
Congestion of the brain.....	1	5	" kidneys.....	5	1
Congestive chill.....	1		" larynx.....	2	2
Cholera infantum.....	23		" liver.....	2	2
" morbus.....	1	1	" lungs.....	8	3
Consumption of the lungs.....	35	3	" pericardium.....	3	2
Convulsions.....	12		" peritoneum.....	2	2
" puerperal.....	1		" s. & bowels.....	8	6
Croup.....		6	Locomotor ataxia.....	1	
Cyanosis.....	3		Marasmus.....		18
Debility.....	1	2	Neuralgia of the heart.....	1	
Diabetes.....	1		Obstruction of the bowels.....	2	1
Diarrhoea.....	1	3	Old age.....	13	
Diphtheria.....	18		Paralysis.....	2	
Disease of the heart.....	15		Poisoning.....	1	
" kidneys.....	1		Rheumatism.....		1
Drowned.....	1	1	Septicæmia.....	1	
Dropsy.....	1		Softening of the brain.....	2	
Dysentery.....	3		Suicide.....	2	
Enlargement of the heart.....	2		Tumor.....	1	
Extra uterine foætation.....	1		Ulceration of the stomach.....	1	
Fatty degeneration of the heart.....	2		Wounds, gunshot.....		1
Fever, puerperal.....	2		Total.....	184	156
" scarlet.....	1	5			

HEALTH OF NEW YORK STATE DURING AUGUST, 1891.—Mortality reports from 138 cities, villages and large towns, having an aggregate population of 4,311,000, show the total number of deaths from all causes in August to have been 8,913, making a death rate per thousand of 24.34 per annum; in July the death rate for the same places was 25.00, and in June, 22.78; 50.4 per cent. of the deaths in these localities were under five years of age, and 31.0 per cent. of the deaths were from zymotic diseases, 23.3 per cent. being from diarrhoeal diseases; nearly one-fourth of the total urban mortality. Of 1,800 deaths occurring in rural districts, 28.0 per cent. were of children under five years of age, and 23.0 were from zymotic diseases, 18.5 being from diarrhoea. For the State, these proportions vary little from the average for six years, the zymotic and diarrhoeal mortality being a little lower than the average. Typhoid fever shows the usual increase, which always begins in August and continues through the fall months; the increase over July is chiefly in the maritime district, which ordinarily has a lower death rate from this cause than the other sanitary districts. There were fewer deaths from scarlet fever, measles and diphtheria than in July, and a moderate increase from whooping-cough. There were more deaths than usual from accidents, chiefly from drowning and railway injuries.

LORENZ REICH'S TOKAYER AUSBRUCH.—Apart from the mere question of purity, good wine is, perhaps, a matter of taste; nor is this a matter of fashion, but of good judgment; and if we find that a kind has received the commendation of *connoisseurs*, we may at least try it with confidence.

No wine has awakened more enthusiasm than "the melted topazes squeezed from the grapes of Hungary," as the Autocrat of the Breakfast Table phrases the glowing Tokay of Mr. Lorenz Reich, whose great family hotel, "The Cambridge," at the corner of Fifth avenue and Thirty-third street, is one of the wonders and blessings of New York.

His cellars contain many rich brands; but best of all is the beautiful Tokayer Ausbruch, and letters from hundreds of well-known pens testify to the delight it has given. Both Garfield and Grant, in their last illnesses, were sustained by it, and by President Arthur and his White House guests no wine was better enjoyed, if we may believe letters from a score of Cabinet ministers, senators, and high officials.

Mme. Adelina Patti wrote to Mr. Reich that she had tasted Tokayer Ausbruch at its birthplace, and only at his table drank its equal. Mr. Gladstone and Lord Coleridge unite in praising it. Salvini is certain it would prolong his life if he could always obtain it, and Dr. Holmes said it put the warmth of summer into his autumn veins. Robert Browning forsakes all obscurity in its praise. J. Russell Lowell thought if he could mix it with his ink he should write "something worth having," and Longfellow says: "Neither king nor kaiser ever tasted better; it is delicious." Henry M. Stanley also wrote to Mr. Reich: "It is a rare gem among wines, which has never been excelled." Cardinal McCloskey wrote to Mr. Reich: "You deserve to be regarded a public benefactor," and the most prominent physicians have affirmed the purity and high medicinal excellence of this wine. "It furnishes a reliable strength-producer and health-promoter," was the opinion of Dr. Willard Parker. And so said Prof. Gross.—*Home Journal*.

Army, Navy & Marine Hospital Service.

Changes in the Medical Corps of the U. S. Navy for the week ending October 1, 1891.

TURNER, THOS. J., Medical Director. Placed on the Retired List, September 21, 1891.

HALL, J. H., Surgeon. Placed on the Retired List, September 25, 1891.

BOYD, J. C., Surgeon. Ordered to duty on Naval Medical Examining Board.

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A PERFECTLY PURE COCOA

Which Many of the Most Notable Doctors and Analysts of Europe Have Emphatically Endorsed as Preferable to All Others.

NOW that medical men are deprecating the habitual use of alcoholic liquors, and even tea and coffee are found too exciting for many temperaments—to say nothing of the growing number of cases of nervous disorder in this age of hot haste and feverish anxiety—the question of what beverage may be recommended, as at once refreshing and innocuous, is assuming the highest importance.

Cocoa has long been known as a useful article of diet, and its claims are steadily winning recognition. Unlike tea or coffee, it is not only a stimulant but a nourisher; and it has the great advantage of leaving none of their neurotic effects on the system. For this reason it is adapted to general use. The strong may take it with pleasure, and the weak with impunity.

Raw cocoa, being indigestible, has to undergo scientific treatment.

It is acknowledged by the most eminent doctors and analysts that C. J. VAN HOUTEN & ZOON do exactly what science would suggest for the conversion of raw cocoa into a satisfactory article of food.

The late Mr. VAN HOUTEN, SENIOR, was the first who prepared a cocoa from which the *excess of fat* was extracted. In this state the proportion of fat is only a third instead of a half, while there is present a third more than before of the most valuable constituents. All makers of pure cocoa (in the form of powder) now remove the excess of fat.

But such cocoa, and all cocoa and chocolate manufactured

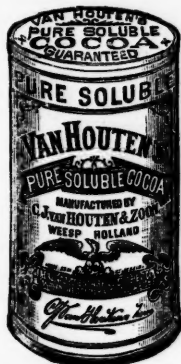
in the ordinary way, are still difficult of digestion, the flavor and aroma also being very imperfect.

The cocoa has to be rendered more soluble. The most important part of the late Mr. VAN HOUTEN's invention, which is still a secret in the possession of this firm, is the special treatment, which increases by fifty per cent. the solubility of the flesh-forming constituents. The fat is made to sit more lightly on the stomach, while the whole of the tissues of the cocoa are softened and rendered more palatable and more easy of attack by the gastric fluid.

The consequence is that the most valuable elements—which otherwise are largely wasted—may be easily assimilated by the most delicate invalids or children; the delicious flavor and aroma natural to cocoa—but which, without this treatment, are not perceptible—are most highly developed, and the great solubility renders the making of the cocoa extremely simple.

Van Houten's Cocoa is thus stimulating and invigorating. Even when made weak it is a delicious beverage, and is then much cheaper than tea or coffee.

No wonder, therefore, that in all parts of the world where Van Houten's Cocoa has been introduced, it is recommended by medical men, instead of tea or coffee or other cocoas and chocolates, for daily family use, by children and adults, hale and sick, rich and poor, and now that the manufacturers are drawing the attention of the American public to its merits, the Medical Profession in the United States is rapidly recognizing them.



Sample can free to Physicians, upon receipt of card, by N. Y. or Chicago branch.

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ONE of the most eminent English physicians recently said that every modern house ought to be destroyed after it had been built for sixty years.

A NEW method of preparing paint has been discovered. One gallon of pure cotton seed oil is placed in a suitable iron vessel, into which twenty pounds of molten lead are poured. After a thorough stirring the lead separates into globules, and when the oil has been poured off, after cooling, there is found to be about seventeen pounds of the lead, the remainder having been absorbed by the oil. On the lead being melted, and the operation repeated to the fifth pouring—the amount of lead absorbed being less at each succeeding pouring—the total amount of lead absorbed is about ten pounds. The oil thus charged with the lead is then used as a paint, being applied in the ordinary way to metallic surfaces. It is claimed that this liquid, which adheres closely and becomes very hard, is especially useful in protecting metal from oxidization or corrosion.

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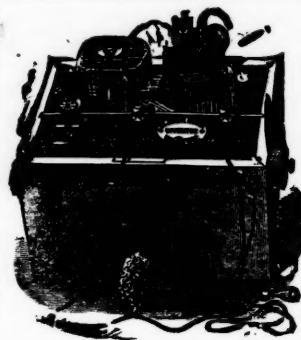
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THIS is the original preparation of Syrup of Hydriodic Acid, first brought to the attention of the medical world in 1878 by R. W. Gardner, the use of which has established the reputation of Hydriodic Acid as a remedy.

Numerous imitations, prepared in a different manner, and not of the same strength, and from which the same therapeutic effects cannot be obtained, are sold and substituted where this Syrup is ordered.

Physicians are cautioned against this fraud.

The seventh edition of Gardner's pamphlet, issued in October, 1889, containing seventy pages of matter devoted to this preparation, its origin, chemical characteristics, indications, doses and details of treatment, will be forwarded to any physician upon application free of charge.

GARDNER'S CHEMICALLY PURE SYRUPS OF HYPOPHOSPHITES.

Embracing the separate Syrups of Lime, of Soda, of Potassa, of Manganese, and an Elixir of the Quinia Salt; enabling Physician to accurately follow Dr. Churchill's methods, by which thousands of authenticated cases of Phthisis have been cured. The only salts however, used by Dr. Churchill in Phthisis, are those of Lime, of Soda and of Quinia, and always separately, according to indications NEVER COMBINED.

The reason for the use of single Salts is because of antagonistic action of the different bases, injurious and pathological action of Iron, Potassa, Manganese, etc., in this disease.

These facts have been demonstrated by thirty years' clinical experience in the treatment of this disease exclusively, by Dr. Churchill, who was the first to apply these remedies in medical practice. Modified doses are also required in this disease; seven grains during twenty-four hours being the maximum dose in cases of Phthisis, because of increased susceptibility of the patient to their action, the danger of producing toxic symptoms (as hemorrhage, rapid softening of tubercular deposit, etc.), and the necessity that time be allowed the various functions to recuperate, simultaneously, over-stimulation, by pushing the remedy, resulting in crisis and disaster.

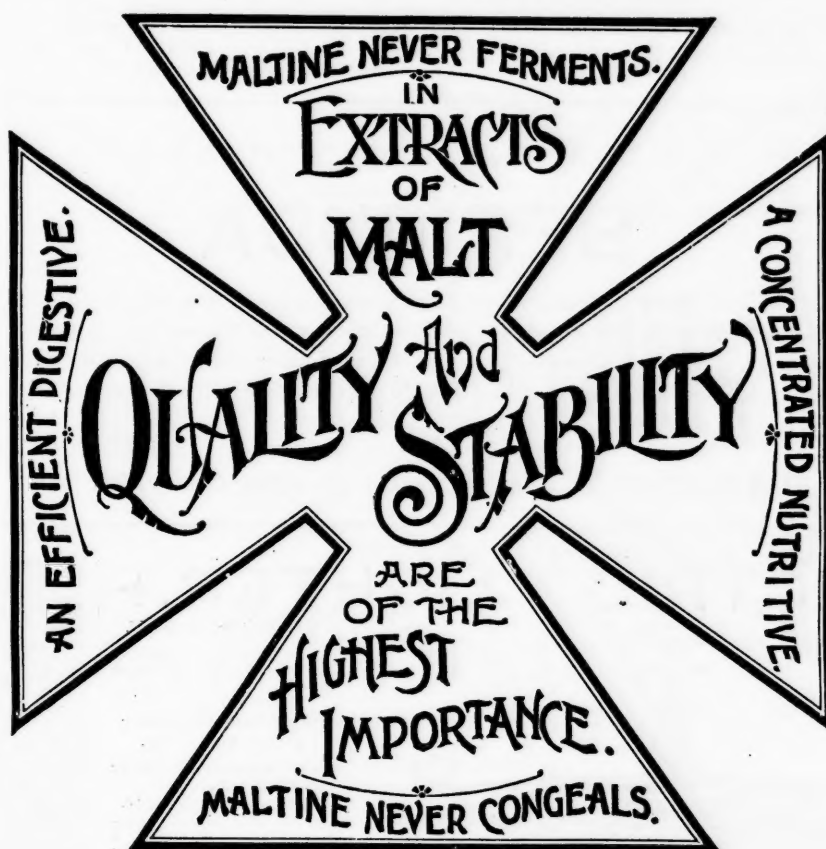
A pamphlet of sixty-four pages, devoted to a full explanation of these details and others, such as contra-indicated remedies, indications for the use of each hypophosphite, reasons for the use of ABSOLUTELY PURE Salts, protected in Syrup from oxidation, etc., mailed to Physicians without charge, upon application to

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Examinations are held at the close of each Regular Session upon the studies of that term. Although the degree of Doctor of Medicine is conferred at the end of the third year, a fourth year is earnestly recommended, at the end of which the degree of Doctor of Medicine cum laude is given.

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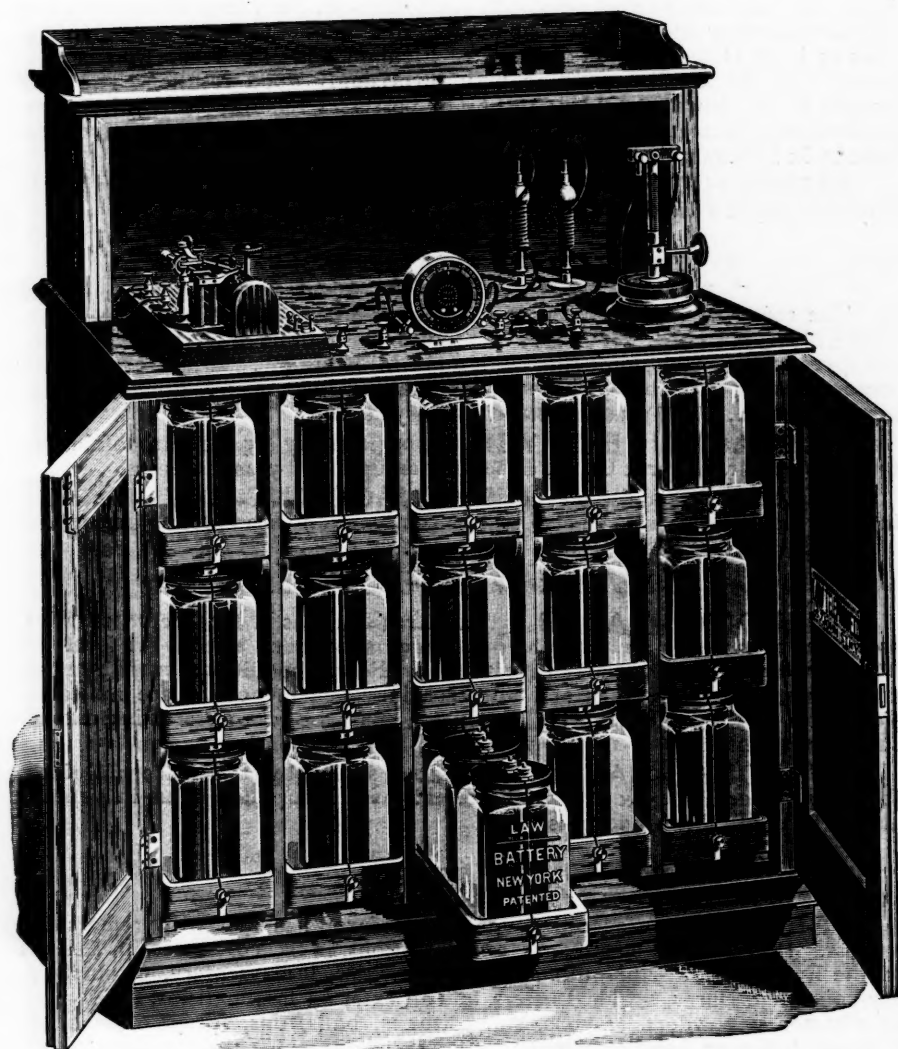
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